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ABSTRACT

This report contains a description of the economic outlook of Arizona and the nation as a whole, information on nationwide skill centers and their efforts to meet industry's needs, and recommendations for a program that would be effective in answering future labor needs. Section 1 includes the economic outlook for Arizona and the nation; a report of new, emerging, and expanding industries in Arizona, and a definition of "Quick Start-Up Vocational Training Programs" (institutional training programs conducted by local educational agencies to meet the needs of industry and the labor force as these needs become evident in a specific area). Section 2 discusses a nationwide survey in which respondents from 41 skill centers described their respective programs, and outlines five exemplary programs (Kentucky Industrial Training, Start-Up Training in Mississippi, Maricopa County Skill Center Program in Arizona, Hinds Junior College in Mississippi, and Albuquerque Skill Center in New Mexico). In section 3 four target needs areas (electronics, computer components, aerospace, and hotel-motel) are identified, and seven recommendations for "quick start-up" programs in Arizona are made. Appendixes contain the survey questionnaire, descriptions of other successful training programs, and a program development guide. (MN)

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Teaching for Tomorrow.

"QUICK START-UP" VOCATIONAL TRAINING PROGRAMS

Sponsored Jointly
by
The Arizona Department of Education
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The University of Arizona

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Northern Kentucky State Vo-Tech
Mississippi State Vo-Tech
Maricopa County Skill Center
Hinds Junior College
Albuquerque Skill Center
Butte Vocational Technical Center
Seattle, Washington/OIC
Mercer County Vo-Tech Schools
Tucson Skill Center
Guthrie Job Corps Center

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--Violet S. Thomas, Editor

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PART I

INTRODUCTION

This report is organized in three parts. Part I includes the economic outlook for Arizona as well as for the nation, a report of the new, emerging, and expanding industries in Arizona, and a definition of "Quick Start-Up" Vocational Training Programs.

Part II contains information on nationwide skill centers and their efforts in meeting industry's needs through "Quick Start-Up" Vocational Training Programs.

Part III identifies the specific industries which should be considered as target need areas within major Arizona metropolitan districts, and recommendations for a program which will be effective in meeting the training needs of tomorrow's labor force in Arizona.

Economic Development and Outlook in the Nation

While there is a short term concern with recession, Griffin, writing in the Occupational Outlook Quarterly sees a healthy long-term situation: "Between 1976 and 1985 total employment is expected to increase 19%...Our growing economy will create 17 million new jobs...29 million more openings are expected to result as people leave the labor force." (Griffin, John P. The Job Outlook in Brief, Occupational Outlook Quarterly, Vol. 22, Number 1, Superintendent of Documents, Washington, D.C. pp. 2-35.)

The summer 1979 issue of the Occupational Outlook Quarterly provides more specific indication of the direction that this increase may take.

> These ten industries will have the highest rates of growth in employment:
> Medical services other than hospitals and doctors and dentists services;
> Miscellaneous transportation equipment;
> Miscellaneous business services, such as mailing services;
> Synthetic fiber manufacturing;
> Computer and peripheral equipment manufacturing;
> Hospitals;
> Floor covering manufacturing;
> Transportation services;
> Copper ore mining;
> Radio and television broadcasting. (Occupational Outlook Quarterly, Vol. 23, Number 2, p. 27.)

Data concerning declining industries also have implications for this study as they may help anticipate needs for retraining displaced members of the work force. This same study projects ten industries to have fewer workers in 1990 than they did in 1977:

> Chemical and fertilizer mining;
> Leather tanning and industrial leather manufacturing;
> Structural clay product manufacturing;
> Private households;
> Wooden container manufacturing;
> Manufactured dairy products;
> Gas utilities;
> Agricultural, dairy and poultry products;
> Saw mills and planing mills;
> Railroad transportation. (Ibid.)

Demographic studies indicate an aging population. While the effects of this shift may be too subtle to impact labor force training needs with great urgency, it will pose needs for inservice training in some occupations. For example, the health occupations are already concerning themselves with special training for geriatric care. Increased knowledge from nutrition studies has prompted retraining of personnel employed in dietary services.

Economic Development and Outlook in Arizona

According to the Arizona Department of Economic Security, the state may not escape the effects of an imminent national recession; however, one of Arizona's major industries, the electronic industry, is expanding and is expected to minimize the influence of a possible national recession.

The Annual Planning Report, published by the Arizona Department of Economic Security, Spring 1979, gives the following summary of the economic outlook for Arizona:

> A good portion of the manufacturing employment in Arizona is based on the electronic, computer, and aircraft industries. The outlook for these firms is bright no matter what happens to the rest of the economy. Nationally, these three industries are expected to perform well in the face of possible business decreases. The electronic industry is in much better shape now than it was prior to the 1974-75 recession. The industry has been involved in controlled growth and has developed market demands sufficient to withstand a possible recession. The computer industry is also strong with adequate demand to keep production high. After a number of difficult years, the aircraft industry is again growing with renewed strength. Current orders should keep production going well into the 1980's. These facts plus relocations of new firms into Maricopa and Pima counties will provide a stable economic base for the coming years.
>
> In contrast, the impending fuel shortages in the country will have a dampening effect on tourism. Those tourist-related sectors such as trade and services should be the first to feel the pinch.
>
> The copper industry, after being at depressed levels for three years, should be the surprise sector for the next few years. Higher prices and increased demand for copper will help mining employment in Gila, Greenlee, Mohave, Pima, Pinal, and Yavapai counties.
>
> Population increases will continue although at a somewhat slower rate than in the past. The substantial inmigration experienced in recent years may be curtailed by energy problems. The combination of this slowing growth rate and the tightening credit situation will hamper construction employment levels. Maricopa and Pima counties, which have been the focal point of newcomers, would sustain

the most severe losses. Of course the climate, recreational areas, and retirement facilities will continue to draw people into the state.

The economy in Maricopa County has long been characterized as being heavily dependent on technology-oriented firms. In the recession of 1974-75, these firms fared poorly and correspondingly the local economy suffered. With national analysts predicting a possible recession in 1979, many people are wondering if Maricopa County can expect the same business declines as experienced in 1974-75. Careful analysis of the semiconductor and computer industries indicates that they are in a much stronger position now and should continue to prosper through the predicted recession.

During 1978, Pima County experienced significant employment gains in the manufacturing sector as new firms moved to the area and existing firms undertook expansion plans. Announced plans indicate that this growth will continue through 1979. As employment in these firms has grown, other industries have experienced increases in demand for their products. There has been a growth spurt in construction to provide manufacturing facilities as well as homes for the workers. The trade and services industries have also enjoyed increased business and have correspondingly expanded their employment. In addition, the mining industry has recently quoted a price of 90 cents to $1.00 a pound for copper. If this price remains firm, the industry will enjoy significant recovery in 1979. These factors point to 1979 as a potentially strong year. The expansion in manufacturing employment has had multiple effects throughout the economy as employment has expanded in construction, trade, services, and other industries. There is also the real possibility that copper mining could quickly regain its previous position of employment. Together this indicates that Pima County should experience employment growth almost equal to 1978.

Until some of the national problems are dealt with effectively, the economic future for the state will remain somewhat hazy. But the nature of Arizona's economic base will continue to provide employment gains. 1979 should be a good year by most anybody's standards with weakening occurring by the end of the year. 1980 will be of a greater concern as weaknesses appearing today will have their full impact then; but as has happened before, this dark cloud on the horizon may easily just blow over. (Annual Planning Report, a Labor Market Information Publication of the Arizona Department of Economic Security, Arizona, Spring 1979, pp. 5-6)

The Arizona Labor Market Profile has been projected for April 1980 by the Arizona Department of Economic Security as follows:

Labor Area Definition . . . . . Nation's 6th largest state in area; 32nd largest in population. Contains 14 counties, two of which are Standard Metropolitan Statistical Areas (SMSA).
Population Estimate 2,593,100
Labor Force Data -
Civilian Labor Force 1,112,506
Employed 1,043,700
Unemployed 68,806
Unemployment Rate 6.2%
Largest Industries (in terms of employment)
Trade 238,800
Government 192,900
Services 190,900
Manufacturing 140,100
(Annual Planning Report, Arizona Department of Economic Security, Spring 1979, p. 1)

New, Emerging, and Expanding Industries

Information was obtained from Arizona Chambers of Commerce, news reports, and business persons concerning new, emerging, and expanding industries within the State of Arizona. Without exception, representatives in the largest cities of the state, including Phoenix, Tucson, Mesa, Tempe, and Yuma, stated that electronics is the fastest growing industry in the state. The Occupational Education Director of Pima Community College, Charles R. Macon, predicts that within the next decade Tucson's electronics industry will equal that of Phoenix.

A spokesperson for Motorola Government Electronics Division in Scottsdale stated that they have expanded their operations to Tempe and Mesa, and they have plants in Phoenix as well as Scottsdale. Motorola trains its own employees who are paid during their training period. There is no training provided at Motorola for office workers who are expected to have the necessary skills when they begin work.

Arizona Chambers of Commerce were most helpful in identifying new, emerging, or expanding industry. According to the Phoenix Chamber of Commerce, 80 percent of interested inquiries are from electronics firms.

Most of the presently expanding industry in the Valley of the Sun is in the field of electronics. ITT Courier Terminal Systems, Inc., is planning a $7-1/2 million expansion. GTE Sylvania, Inc., another electronics firm in Phoenix, has purchased $50 million of IBM equipment. Emerging industries in Phoenix are a paper manufacturer with a possible 190,000 square footage, and a plastic foam-plastic pipe manufacturer. The plastic firm manufactures pipes for garden and sewers as well as padding for sporting equipment.

The Mesa Chamber of Commerce reported that the Rogers Company, an electronics firm with a plant in Chandler, has expanded their operations to a Mesa site which they opened in September 1979. Mr. Murrell Smith, Economic Development Adviser for the Mesa Chamber of Commerce, stated that the Digital Equipment Company is planning to locate in Mesa early in 1981. He estimated they will hire 3,000 persons.

The Tempe Chamber of Commerce reported two new electronics plants have expanded operations to Tempe. Beckman Industries, with 400 employees, plans to double its operations within four years. Beckman manufactures electronic read-out panels for computers. Motorola Electronics Division has also opened a new plant in Tempe. New hotels are looking at Tempe sites. A $15 million apartment-hotel building next to Arizona State University is expected to open in the Fall of 1980, according to a news report. (The Arizona Daily Star, Sec. B, p. 10, September 2, 1979)

Mr. Glenn Martin, an industrial developer, stated that expansion in Tempe by electronics firms is substantial. According to Mr. Martin, in the planning stage is an aerospace firm which manufactures parts for jet engines.

The Flagstaff Chamber of Commerce reported no commitments nor plans for new or expanding industry in that area.

A representative of the Yuma Chamber of Commerce stated that the cut-and-sew industry is emerging in Yuma with one plant ready to begin operations within the next few months, and another plant to open within a year. Electronics and yarn manufacturers are two industries that may consider Yuma for location sites. The Yuma Chamber of Commerce representative expressed a concern for the fragmented efforts by industry and institutions in training programs for workers. He concluded that there should be unified programs whereby industry, the State Department of Vocational Education, and educational institutions work together in planning and training the work force. This conclusion was supported by Boyer whose study noted:

> The results verified that communication between the Employment Development Department, the Manpower Planning Offices and the educational community was ineffective. Respondents also indicated that Area Vocational Planning Committees should be mandated and should be given the authority to control unnecessary program duplication. (Dissertation Abstracts International - Series A: Humanities Vol. 37 Jan.-Feb. 1977, "Regional Planning in Vocational Education and Manpower Programs in California from 1960 to 1975" by Gaylord Boyce Boyer, ASU 1976, p. 5077-A)

A recommendation of Boyer's study was the "manpower planners and vocational educators serve together on planning committees." (Ibid.)

The Tucson Chamber of Commerce stated that the Tucson Economic Development Corporation would be able to give the information requested

concerning Tucson's industry expansion. A spokesperson for the Tucson Economic Development Corporation confirmed that electronics is becoming a major industry in Tucson. This was confirmed by the Public Information Officer of the Arizona Department of Economic Security. Burr-Brown Research Corporation, an electronics firm, is expanding its plant in a $6 million project. Another electronics firm, the National Semiconductor Corporation, has announced plans to invest $10 million in a Tucson operation which projects a figure of 2,000 employees by 1985 with an annual payroll of $25 million.

Without exception, the major industry emerging in Arizona is in the field of electronics. Phoenix and Tucson are the major industrial areas at this time.

Definition

For the purpose of this report "Quick Start-Up" Vocational Training Programs is the term for institutional training conducted by local educational agencies to meet the needs of industry and the labor force as these needs become evident through new, emerging, or expanding industry in a specific area.

Established educational institutions in the public sector have been criticized as inflexible in responding to the critical manpower needs of business and industry under circumstances of rapid change. The very nature of the financial support structure for many public institutions prescribes a financial planning-implementation cycle of two, and sometimes three, years' duration.

Business and industrial requirements for trained manpower may require response within a period of weeks or, at the longest, months.

Local failure to respond to such requirements may result in lost employment opportunities for local manpower, importation of skilled labor at great expense to industry, or in the most extreme cases, loss of an extant or prospective industry.

From the perspective of the employee, a "Quick Start-Up" program may be required for retraining when precipitant unemployment results from replacement of obsolescent technology or phasing out of all or part of an industry or particular industrial process.

The researchers responsible for this report have sought to identify and examine programs and planning procedures that enable local institutions to respond to needs for employee training within a period of from thirty to ninety days from the time of established need to established training program.

PART II

NATIONWIDE "QUICK START-UP" VOCATIONAL TRAINING PROGRAMS

A study was conducted for the Arizona State Department of Education in the summer of 1979 to identify successful strategies for implementing "Quick Start-Up" vocational training programs for specific industries. A search of computer data banks by the Research Coordinating Unit of the Arizona State Department did not reveal any pertinent information.

Project Goal Description

This report is based on the findings of the research and includes:

1. A description of the five most successful "Quick Start-Up" programs identified through the study;
2. The human, fiscal, and material resources needed by the state educational agency to implement each of the five programs;
3. The identification by major Arizona metropolitan areas of specific industries which should be considered as target need areas; and,
4. Recommendation and justification for any of the five programs which would be most effective in Arizona.

The programs discussed in this report are recommended for men and for women. Even though the jobs may be considered traditionally as those for one sex exclusively, both sexes are encouraged to enter the "Quick Start-Up" vocational programs.

Guthrie Job Corps Center Truck Driver Training Program

To give more meaning to the definition of "Quick Start-Up" developed in Part I, and to illustrate the complexity of public and private relationships that may be involved, a brief description of a truck driver training program follows:

> In response to a documented shortage of truck drivers in the Oklahoma City-Tulsa area, the Southwestern Motor Carriers Association (SWMCA) and the Guthrie Job Corps Center cooperated to initiate a program for training of light and heavy truck drivers. From initiation of planning to the start of the first instruction involved approximately four months.
>
> SWMCA assumed all responsibility for providing instructors and facilities. Curriculum was developed by SWMCA with assistance from the vocational supervisor at the Guthrie Job Corps Center. Tuition was calculated on the basis of actual cost. Enrollment was initially recruited by the Guthrie Job Corps Center but was opened to the general public once the program was established. One member firm in SWMCA provided classroom space. A second SWMCA member provided an open field for training. Various SWMCA members assign vehicles for specific periods of time to be used as training vehicles.
>
> The SWMCA maintenance and repair shops are opened to the class for use in instruction in that aspect of the program.
>
> Guthrie Job Corps Center pays tuition for all Corps members in attendance at the rate of $800 per Corpsmember. Corpsmembers live at the Guthrie Center and are transported by Guthrie Job Corps Center to the instructional site near the Will Rogers International Airport.
>
> Related instruction is provided through the GJCC basic education program. The SWMCA takes responsibility for placement of all course completors. Course completors over 21 years of age qualify for driving heavy trucks. Those under 21 years of age are placed locally driving light trucks until they attain the age of 21 years.

Data Collection

"Quick Start-Up" programs are provided by a broad spectrum of organizations and institutions. Probably industrial "in-house"

training programs account for much of this type of vocational training. Limitations of time and financial resources restricted the research team's efforts to a nationwide examination of such programs in skill centers. Skill centers, however, have no monopoly on this type of training activity. Community colleges, area vocational schools, proprietary trade schools, public high schools and publicly-sponsored local adult education programs are all engaged, separately and cooperatively, in meeting the needs of business and industry for skilled personnel.

A basic assumption of this report is that the fundamental principles underlying the success of "Quick Start-Up" training programs in skill centers are equally applicable to successful programs sponsored by other institutions and organizations.

Arizona Community Colleges are making a significant contribution in training and upgrading the work force. Pima Community College, for instance, takes instruction to the plant that requests a training program. They have conducted successful programs for Hughes Aircraft, Lear Jet, Burr-Brown, and the Arizona Air National Guard. For a two-hour management course, the company gives released time for the first hour and supervisors give an hour of their own time. Students may be trained also through the Tucson Skill Center in a Pima Community College program which is funded by CETA.

Limitation of the Study

To the extent that this study dealt almost exclusively with skill centers, this must be noted as a limitation.

Skill Center Survey

One hundred eighty-seven questionnaires were mailed on May 16, 1979, to skill centers nationwide. Ten of the questionnaires were returned by the Post Office, stamped "Undeliverable," for those addressees who had moved and left no forwarding address. Forty-one questionnaires were answered and returned by the respondents. (See Appendix A - Copy of the Questionnaire.)

Respondents were asked to list the sources which they find helpful in determining the need for special programs in their locality. Sources mentioned included local industry inquiries, chambers of commerce, newspapers, Department of Economic Security data, personal contacts in the local employment and training system, CETA Prime Sponsors, Labor Market Advisory Committees, local employment service office, telephone survey of county businesses (this was mentioned by the Albuquerque Skill Center which indicated that the telephone survey was by far the most important), personnel directors, needs assessment study, Advisory Committee comprised of 250 business leaders, survey of individual employers, state employment service, Department of Human Resources and the National Alliance of Businesses.

Processing of the Data

The forty-one respondents completing the questionnaire volunteered additional information, and several of them included detailed descriptions of their programs.

In order to provide for comparability among programs identified and support the selection of five exemplary programs, a system for processing data was required. The researchers developed a descriptive framework for codifying information collected. This framework also

assisted the researchers in questioning of the data toward development of principles basic to the recommendations to be set forth relative to goals 3 and 4 of the report.

Data Processing Form

The following form was used for categorizing data for each of the five exemplary programs:

Name of the Program:
Name of the Person Reporting:
Address:
Telephone Number:
Sponsoring Agency:
Relationship to the Community and Industry:
Mechanisms for Needs Assessments:
Procedures for Establishing Training Objectives:
Curriculum Development Process:
Coordination:
Role of Advisory Groups:
Identification of Resources:
Housing Arrangements:
Staffing Arrangements:
Identifying and Securing Materials of Instruction:
Providing Necessary Related Education:
Unique Program Characterics:
Selecting Program Participants:
Program Evaluation:

Additional descriptive materials for these five programs and other noteworthy programs are included in the Appendixes of this report.

Exemplary Program No. 1

Name of the Program: Kentucky Industrial Training

Person Reporting: Kenneth Mahoney, Industrial Coordinator

Address: Northern Kentucky State Vo-Tech
Amsterdam Road
Covington, KY 41011

Telephone: 606-292-2700

Sponsoring Agency: Kentucky Bureau of Vocational Education,
State Department of Public Instruction

Relationship to Community and Industry:

There is an area vocational-technical center within a twenty-five mile radius of any community in the State. The centers virtually blanket the State. Presently there are 14 State vocational and technical schools and 69 area vocational education centers.

The Kentucky Industrial Training program (KIT) undertakes to maintain constant contact with both existing and new industries.

KIT representatives and industrial training experts help a company analyze its needs and formulate training programs. Some programs involve on-the-job training.

Needs Assessment:

A needs assessment is conducted jointly by KIT personnel and company representatives. Both pre-employment and inservice training needs are identified.

Establishing Training Objectives:

KIT has extant programs for more than 70 occupations. These may be adapted to the specific needs of a company. When a program is not available for adaptation, KIT will bring in outside instructional experts to work jointly with all parties to develop instructional objectives.

Curriculum Development Process:

Detailed curriculum is developed by KIT personnel in consultation with company representatives.

Coordination:

Primary responsibility seems to lie with the staff of the area vocational centers and Bureau of Vocational Education's Area Coordinator.

Role of Advisory Groups:

No information given. There seems to be extensive use of "expert" consultants.

Identification of Resources:

In an all-out effort to attract new industry, all costs are underwritten by the State of Kentucky.

Housing Arrangements:

KIT provides program housing in area vocational centers, remodeled empty school houses and on the company's site. On-the-job training phases of a program are conducted on company site with KIT supervision.

Staffing Arrangements:

All instructional and administrative staff are provided by KIT. Instructors may be "borrowed" from the company.

Materials of Instruction:

All materials of instruction are provided by KIT.

Related Education:

No information given. Selection process would seem to indicate careful screening of trainees for required academic background.

Unique Program Characteristics:

Total state financing of an effort such as this is unusual; and the use of the word "interim" in the descriptive materials would indicate that this is an expedient, and temporary, method of attracting industry to the state.

The organization of the state in regions and areas to provide occupational education opportunities within twenty-five miles of any resident is laudatory.

The joint development, supervision and evaluation of "Quick Start-Up" programs by company and state is exemplary.

The program seems to have a high degree of administrative centralization in keeping with the phenomenon of total state financial support.

Selecting Program Participants:

"KIT selects the best trainees. Through the Kentucky Bureau for Manpower Services, prospective employees are recruited, tested and screened in accordance with the company's hiring specifications. However, the company makes the final selection before training begins. Trainees usually attend sessions on their own time and without pay."

Program Evaluation:

The company and the state evaluate the program.

Related Information:

The Curriculum Development Center for Kentucky has undertaken the development of a bank of modules of instruction for vocational courses taught in the Kentucky system. These modules are available to all programs.

This new curriculum is all competency-(performance) based and criterion-referenced. Modules are based on task analyses and performance objectives developed by the V-TECH Consortium of States.

Extensive use of visual aids and audio tapes is made in all courses.

Exemplary Program No. 2

Name of the Program: Start-Up Training in Mississippi

Person Reporting: Thurman E. Alley, Assistant Director, Pre-Employment and Start-Up

Address: 3925 Sunset Drive, Jackson, MS 39213

Telephone: 601-366-1405

Sponsoring Agency: Vocation-Technical Division of the Mississippi State Department of Education

Relationship to Community and Industry:

The State Coordinator of Industrial Training, State Education Department, works closely with industrial development groups and industry to initiate recruiting and training activities. Each start-up training program is directed toward one single industry, plant or firm. Program planning does not begin until the industry has made a firm commitment to locate a plant somewhere in the state.

Needs Assessment:

The industry must cooperate fully with the program coordinator in furnishing information.

Establishing Training Objectives:

A coordinator is assigned to the program to determine leadership and liaison, establish responsibilities, identify manpower requirements, identify date for plant start-up, determine how many people will be enrolled and determine how many people are available for training.

Curriculum Development Process:

Training session agenda are developed by the project staff. The coordinator has responsibility for overview of the training program.

Coordination:

A coordinator is assigned to the industry.

Role of Advisory Groups:

Apparently the company personnel performs this function.

Identification of Resources:

This is the responsibility of the Coordinator with assistance from program instructional staff.

Housing Arrangements

Options for using regular institution, the industry site, or acquiring additional space are available.

Staffing Arrangements:

The staff may be from a vocational school, community college or plant personnel. A staff training program may be involved.

Materials of Instruction:

An instructional materials specialist from the Research and Curriculum unit for Vocational-Technical Education at Mississippi State University coordinates acquisition or development of materials.

Industrial equipment, supplies and materials may be furnished by the industry.

Related Education:

This is a concern only when cross-training is needed for key jobs.

Unique Program Characteristics:

The focus of this program upon a single industry is unique. The scope of responsibility assigned to the local coordinator is major.

Selecting Program Participants:

Mississippi employment service area offices have a key role in selecting program participants. Educational institutions may elect to take full responsibility for administering pre-selection tests.

Program Evaluation:

Process evaluation is conducted by project staff. Ratings and accomplishments of each employee are reviewed periodically with the prospective employer.

Industrial cooperation is enlisted for post-project-on-the-job evaluation of employees. Feedback is important for program planning and control.

Exemplary Program No. 3

Name of the Program: Maricopa County Skill Center Program

Person Reporting: Jack Riddle, Director

Address: 4118 East Wood Street
Phoenix, AZ 85040

Telephone: 602-243-4141

Sponsoring Agency: Maricopa County Community College District

Relationship to Community and Industry:

A complex system of advisory committees serves to keep the center in constant contact with the business and manufacturing community.

Needs Assessment:

A learning center provides basic education skills, English as a second language training, G.E.D. preparation and an intensive program of teaching reading.

Vocational evaluation is one of the services offered at the Maricopa County Skill Center. This service includes interviews, interest inventories, academic testing, work sample testing, work station assessment and behavioral observations. Services may be purchased by an agency or individual. Consultant services are also available.

Establishing Training Objectives:

When a general need is identified by one of the advisory groups and/or steering committees, center staff tries to document the need.

A course authorized can be established in 30 to 60 days. An instructor is employed to develop curricula with the aid of a steering committee. When an employer has a need for employees trained for new occupational roles, center staff works directly with that firm cooperatively to establish a program.

Curriculum Development Process:

Steering committees have specific curricula under constant observation for both extant and emerging needs that must be met through instruction.

Cluster advisory committees monitor the job placement successes of extant courses and monitor the community for emerging needs for new courses.

Coordination:

Primary responsibility lies with the staff of the Maricopa County Skill Center and the Maricopa County Community College District.

Role of Advisory Groups:

A center advisory committee drawn from the community meets two to three times each year to advise staff on policies and overview the program.

Each cluster of job classifications has an advisory committee that meets every 6-8 weeks to review the status of courses in that cluster and advise instructors.

Steering committees advise instructors concerning course scope and sequence. The curricula for a new course is developed with assistance from the course steering committee.

Identification of Resources:

The Maricopa County Skill Center is funded by the U. S. Department of Health, Education and Welfare; U. S. Department of Labor; Arizona Department of Education, Division of Career and Vocational Education; and, the Comprehensive Employment and Training Act of 1973.

Housing Arrangements:

The Center has a modern, well-equipped facility. The capital investment is used most effectively through regular day programs, extended day programs and a Saturday program whereby the Union Local 669 rents space.

Staffing Arrangements:

The Maricopa County Skill Center has a well-trained staff of instructors. Instructors maintain continuous contact with industry's needthrough professional and trade associations. All skill instructors are drawn from industry. Instructors for special occupations may be supplied by the employer requesting the training.

Materials of Instruction:

Instructor-made materials are used,which are all individualized and field-tested.

Related Education:

Remedial skill-building is available in the learning center unit.

Unique Program Characteristics:

The advisory committees are in constant contact with the business and industry community. The curricula and course materials are developed for new courses by the instructors with assistance from the course steering committee.

A new course in medical transcription was developed for disadvantaged students, which was highly successful. The contract with the sponsor, Good Samaritan Services, met all costs.

Selecting Program Participants:

Current employees of a company participate in training and retraining programs. Trainees also may be recruited by staff personnel.

Program Evaluation:

Advisory committees review the programs and advise staff on policies. Cluster advisory committees monitor the job placement successes of extant courses and monitor the community for emerging needs for new courses.

Exemplary Program No. 4

Name of the Program: Hinds Junior College Vicksburg-Warren County Branch

Person Reporting: Joseph L. Loviza, Director

Address: Rt. 10, Box 385-C
Highway 27, South
Vicksburg, MS 39180

Telephone: 601-638-0600

Sponsoring Agency: Mississippi State Department of Education

Relationship to Community and Industry:

The Hinds Junior College cooperates with the State Department Vocational-Technical Division in the administration of vocational, technical, and adult programs. Start-Up training is an integral part of the instructional program at Hinds Junior College. It is designed for new industries and expanding industries to enable them to have a trained work force to begin or to expand production.

Needs Assessment:

Extensive guidance testing services are available at the Vo-Tech Center. Testing services available include the following:

Professional Administrative Career Examination (PACE)

General Aptitude Test Battery (GATB)

Pre-Admission Assessment for Practical Nurses (PAAPN)

Otis Intelligence Quotient (OIQ)

U. S. Civil Service Exam for Typing and Shorthand (CSE)

Certification of Emergency Medical Technicians (NREMT)

Kuder Interest Inventory (KII)

General Education Development Examination (GED)

Certification of Engineering Technicians (CET)

American School Achievement Examination (ASA)

Adult Basic Learning Examination (ABLE)

Establishing Training Objectives:

Each start-up training program is designed specifically for an individual industry, upon a request by that industry for a training program.

Curriculum Development Process:

The State Department of Education, Vo-Tech Division, provides curricular specialists to develop the training curriculum for certain situations. Industry provides a qualified consultant, and the Hinds Junior College staff works with the curricular lab and industry in coordinating program direction.

Coordination:

Primary responsibility lies with the staff of the Hinds Junior College and the State Department of Education.

Role of Advisory Groups:

The State Vo-Tech Division informs local schools immediately of any start-up training needs in their district as advised by the Agricultural and Industrial Board and area development groups. Hinds Junior College advisory groups alert the Vo-Tech Division of any start-up training needs in their district.

Identification of Resources:

Funding for the Start-Up training is made available through the State Department of Education, Vo-Tech Division.

Housing Arrangements:

The Vicksburg-Warren County Branch of Hinds Junior College is primarily a Vocational-Technical facility and is operated as an extension of Vicksburg High School and Warren Central High School during the school day. Adult Vocational, Technical, and Academic classes are offered in the evening.

Staffing Arrangements:

Instructors are either employed by the industry or by the school. The State Department reimburses the school 100% for instructional salaries.

Materials of Instruction:

Methods of presenting instruction in industrial education include: the demonstration, the lecture, the discussion, directed research, the visual presentation, programed instruction, student-team projects, television, individualized instruction sheets, role-playing, student-directed activity, use of directed references, student work, field trips, writing and presenting a technical report, interviewing,

evaluating a project or unit and testing. The College cooperates with the State Department of Education in negotiating with industry for supplies.

Related Education:

Remedial education is available to assist the disadvantaged student.

Unique Program Characteristics:

Hinds Junior College uses the high school facilities for some of its training programs.

Any interested industrial or business group which has bona-fide training needs may request a class taught by the Vo-Tech Center when ten or more students are involved. Approximately 150 classes per year of this nature are taught by the Vicksburg-Warren Branch of Hinds Junior College.

Selecting Program Participants:

Each Start-Up training program is designed specifically for an individual industry. A comprehensive testing program is available through Hinds Junior College for assessment of students' interests and capabilities.

Program Evaluation:

This information is not available.

Exemplary Program No. 5

Name of Program: Albuquerque Skill Center

Person Reporting: Max V. Leavitt, Ed. D., Director

Address: 1701 - 4th St., SW.
Albuquerque, N. Mexico 87110

Telephone: 505-842-0875

Sponsoring Agency: New Mexico Department of Education

Relationship to Community and Industry:

A need for "Quick Start" programs is determined through local sources. Most frequently a community group or businessmen come to the Albuquerque Skill Center with a suggestion for a new training program.

Needs Assessment:

The Center staff identified the need for slow learner training in custodial, grounds keeper and keypunch operators. A course outline was developed for each area.

Establishing Training Objectives:

When a new training program is suggested, the Center staff reviews the information available at the Employment Security Division and the State Department of Vocational Education. Next, the new program is discussed with the National Alliance of Businessmen, the Chamber of Commerce, and the Union Leadership, where appropriate. An ad hoc advisory committee is then formed for input and for a telephone survey of the industry to determine shortages and to obtain a general commitment for employment.

Curriculum Development Process:

Once a year nationwide skill directors meet to exchange information and curriculum materials. The Center collects curriculum materials even though there is not presently a need. They also use the 13-State Consortium of Vocational Education units. The parent organization, the Albuquerque Technical Vocational Institute, also supplies the Skill Center with many curriculum materials.

Coordination:

The State Department of Vocational Education supports the Albuquerque Skill Center in coordination of new training programs.

Role of Advisory Groups:

The ad hoc advisory committee conducts telephone surveys of the local business scene. The Director stated that the telephone survey of business is by far the most important source by which they determine the need for special programs in their locality.

Identification of Resources:

CETA is a prime resource--75% or more. Other fiscal resources are supplied by the State Department of Rehabilitation, the Bureau of Indian Affairs, and the All-Indian Pueblo Council.

Housing Arrangements:

No information on housing arrangements was given.

Staffing Arrangements:

The Albuquerque Skill Center has had no trouble recruiting for limited-employment periods. They find local people supply the Center with any additional instructors who may be needed because of a Start-Up training program.

Materials of Instruction:

At least fifteen really excellent individualized programs have been provided by the 13-State Consortium of Vocational Education. Other materials have been traded among skill centers, including Arizona, Las Cruces and Ogden.

Related Education:

The Albuquerque Skill Center has special programs for the slow

learner. In addition to the programs mentioned earlier, they offer a clerical program for the handicapped.

Unique Program Characteristics:

The provision for training handicapped persons is timely and much needed. While their curriculum library may not be unique, the volume of curriculum materials is great. The Director reported that they have on hand such a variety of materials that they could, at any given moment, produce curriculum materials for 30-40 vocational training programs.

Selecting Program Participants:

Selected programs are available for slow learners. Company employees participate in training and re-training programs. Programs are developed as the need for training and/or re-training becomes evident.

Program Evaluation:

The custodial, grounds keeper and clerical programs for the handicapped have been successful. The keypunch program fared less well. Placements were made, but the clients could only handle exactly what was taught them. No further information was available on program evaluation.

PART III

RECOMMENDATIONS

Justification for public participation in providing "Quick Start-Up" vocational training programs is anchored in both humanistic and economic values.

Public participation can provide and promote equal opportunity for all individuals to acquire the competencies prerequisite to employment in an industry. Such training can provide (a) an important avenue to the labor market for youth, (b) new opportunity for the unfortunate individual who has been caught in the syndrome sometimes called technological obsolescence, and (c) opportunity for upgrading of skills. It is difficult to identify the point at which the human values in this process can be separated from the economic. Some prefer to identify the process as "development of human capital." While benefits such as improved self-perception, positive social contributions and other humanistic benefits are difficult to measure, benefits from increased tax contributions, reduced welfare costs and increased consumer purchasing power are quantifiable benefits subject to cost/benefit analyses.

In the Kentucky program, examined in Part II, the principal justification lies in the industrial development of the State. The underlying hypothesis might be stated: If the State of Kentucky develops a system that will relieve industry of the expense of training

a work force, then industry will move to the State of Kentucky.

Economic conditions in the State of Arizona have been impacted by the national trend of movement of industry to the "Sun Belt." A decision to deliberately foster further movement of industry by support through "Quick Start-Up" vocational programs should be more selective in this state. It goes beyond the limits of this study to make specific recommendations as to what programs should be established and where. It is possible, however, to note that there are pockets of poverty in the state that could benefit from new occupational opportunities and to speculate that "Quick Start-Up" programs in those geographic areas might induce development of new industry there. This would call for careful liaison between State educational agencies and agencies responsible for planning for and recruiting new industry. It would be foolhardy to postulate that provision for "Quick Start-Up" vocational programs on the Papago and Navajo reservations, or in other economically depressed areas, would be a primary stimulus for industrial movement to those locations. Yet, industry would be loath to move to such high-risk areas without assurance of a trained labor force.

Immediate Target Need Areas

Part I of this report identifies industries that are expanding nationwide and that are new, emerging, or expanding in the State of Arizona. These industries are importing trained labor, in many instances, because such trained personnel are not available here. From the point of developing local human resources and supporting the economic development of our communities, these industries should

be considered as target need areas:

1. Electronics
2. Computer Components
3. Aerospace
4. Hotel-Motel

Recommendations Concerning "Quick Start-Up" Vocational Training Programs in Arizona

Of the five exemplary "Quick Start-Up" programs examined in Part II, in the judgement of these researchers, the Kentucky Program deserves careful study. Recognizing (a) this program's emphasis on recruiting new industry and (b) its emphasis on serving industry rather than individuals, the Kentucky program with modifications could serve as a model for Arizona.

There are several basic principles that may be identified as a result of examining the five exemplary programs, and all of these principles seem to be present in the Kentucky program.

1. An effective program must have provision for State-level administration and coordination. Responsibilities must be clearly stated and assigned.

Arizona has a number of organizations and agencies already making a contribution to vocational training. A basic principle of economic parsimony would dictate that replication of extant facilities be avoided. That same principle would also indicate that responsibility should be assigned to the agency most able to perform services without the necessity for greatly expanded capital outlay.

Arizona's extant vocational facilities in skill centers, local school systems, community colleges and proprietary trade schools can be utilized in a pluralistic approach to meeting the needs of

individuals and industries for "Quick Start-Up" programs.

Creation of new facilities should be limited to areas of need where extant training facilities are not within reasonable commuting distance from the potential labor force.

Recommendation:

Establish a state office of coordination. The primary function of such an office to be maintenance of liaison with industrial planning agencies throughout the state. The coordinator is to be responsible for maintaining quality of training programs, locating fiscal, human and material resources for training programs undertaken, and, through directors of training centers, for supervising the successful completion of training programs as specified in training plans.

Such an office should have a small staff and secure most of its manpower needs through co-opting effort from within the existing structure for administration and supervision of vocational education.

2. Successful "Quick Start-Up" programs exhibit an effective communications system. Without deliberate effort to enhance communications it is always possible that institutions and agencies will become preoccupied with looking inward and thus become isolated and committed to perpetuation of the status quo.

Recommendation:

The State Vocational Advisory Committee should give special attention to the need for and administration of "Quick Start-Up" programs. Since this committee already has a legal mandate for overview of vocational education, it does not seem wise to recommend establishment of another entity that would have no power.

If the agenda of the State Vocational Advisory Committee is already too heavy, it might be possible to establish a subcommittee chaired by a member of the State Vocational Advisory Committee and supplemented with representatives of business, industry, the State Vocational Education Department and vocational service agencies.

It would be the responsibility of this Advisory Committee to make recommendations concerning allocation of resources for "Quick Start-Up" programs through the annual state vocational plan, to make recommendation concerning emerging program needs and to evaluate the effectiveness of the state-wide effort.

3. The exemplary programs universally observe a basic principle of administration in their placement of accountability for individual programs with those who have operational responsibility.

Recommendation:

For each program undertaken, an on-site training committee composed of representatives of the concerned industry, education, and the state office, will:

a. Formulate a start-up schedule for the training program, identify training objectives and assign responsibilities.

b. Draft a training plan, including the acquisition of a training facility, equipment and qualified instructors, also including preliminary decisions as to training methods and means.

c. Recruit, evaluate, and screen prospective trainees through the facilities of the training center and according to specifications of the hiring company.

d. Evaluate the progress of trainees throughout the training program, and, in many instances, through the transition from pre-hiring to on-the-job training.

e. Assess the success of the program by a follow-up study six months after trainees are on the job.

4. Successful "Quick Start-Up" programs draw upon many resources for finances, personnel, equipment and materials. As one examines extant "Quick Start-Up" programs, the question arises: "Would this program be here if it were not for federal funding?" In too many cases, the answer to this question would be "No."

Recommendation:

As in the case of a recommended pluralistic involvement of all educational institutions and agencies, this recommendation deals with pluralistic funding.

In situations where established industry has training needs that can be met more economically by a program sited in a public institution, then industry should be expected to contribute to costs as illustrated in the several instances reported in the description of the Maricopa County Skill Center and the Oklahoma truck drivers' training program.

In situations where the primary purpose is to stimulate establishment of a new industry, then judicious use of VEA, CETA and other public funds for sole funding of "Quick Start-Up" programs may be in the public interest.

In situations where individuals will receive direct long-term financial benefits from up-grading training, it would seem reasonable to expect the individual to make some contribution to the cost of such training.

No program can long endure if it is based entirely on funds from outside agencies, subject to annual or biennial appropriations dependent on political decisions. The more involvement there is on the part of state and local agencies, business, industry and individuals, the better the prognosis for the long-term success of a program.

5. "Quick Start-Up" programs are designed to address specific vocational competencies, often specific to an employing industry.

Recommendation:

The State Coordinator for "Quick Start-Up" programs should cause to be assembled for quick utilization a library of task analyses and curricula for adaptation and/or adoption, such as reported by the Albuquerque Skill Center.

Such a library of basic curriculum materials should also include equipment lists, materials lists, and recommended lists of materials of instruction. Maximum use should be made of the products of such efforts as the V-TECHS consortium of states, the Mid-American Curriculum, and the Center for Vocational and Technical Education at Ohio State University--to name a few.

Protracted debate over what is to be taught may delay response to urgent employment needs.

6. Recruitment of trainees takes place in several modes as illustrated by the exemplary programs cited.

Recommendation:

Maximum use should be made of the services of the Department of Employment Services as an avenue for dissemination of information to ensure provision for equal opportunity.

7. Descriptions of most of the exemplary programs include an emphasis on the importance of program evaluation. The absence of specific information about program evaluation in the descriptions of programs accumulated during this study might indicate a universal weakness.

Recommendation:

Efficiency and effectiveness in learning should be a hallmark of an exemplary "Quick Start-Up" program. It is recommended that the office of the Coordinator develop, adapt or adopt an evaluation model and make that model public to all program sponsors.

CONCLUSION

Arizona has two major metropolitan areas, namely Maricopa (including Phoenix, Mesa and Tempe) and Pima counties (including Tucson). The metropolitan areas' need for "Quick Start-Up" vocational training programs differs widely from the need of the sparsely populated rural areas of Arizona. This report stresses the importance of a unified statewide structure, identifying specific duties and responsibilities, for greatest efficiency in providing Arizona with an effective "Quick Start-Up" program. The state coordinator shall have the responsibility for the programs, to be assisted by two metropolitan area directors. Programs for the rural areas should be coordinated out of the State Vocational Education Department as the need arises.

Existing facilities should be utilized in continuing to provide training for "Quick Start-Up" vocational training programs. These facilities include the skill centers, community colleges, proprietary schools, and, where feasible, the high schools.

APPENDIXES

APPENDIX A

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

COLLEGE OF EDUCATION
DEPARTMENT OF BUSINESS
AND CAREER EDUCATION

May 16, 1979

Dear Skill Center Director:

This questionnaire is being sent to selected Skill Centers nationwide in order to determine the most effective strategies used in "Quick Start-Up" training programs. A "Quick Start-Up" program is defined as training initiated for the purpose of preparing adults for new and emerging occupations.

The Arizona State Department of Education is interested in identifying strategies that have been successful in producing qualified employees in order to prepare a model for the guidance of program directors. A brochure or folder describing your special program will be most helpful in determining your strategies in implementing training; if you have such descriptive literature, please return it with this questionnaire.

We will appreciate your taking a few moments to answer the following questions:

1. _____ yes _____ no Did you, or do you presently, have a "Quick Start-Up" vocational program in 1979?

2. _____ yes _____ no Do you have a brochure or other information describing your program that you may send?

3. List the sources which you find helpful in determining the need for special programs in your locality.

   1.
   2.
   3.

4. Briefly describe on the back of this page your present "Quick Start-Up" vocational training program(s), or one that you may have completed earlier in 1979. Please include your evaluation of the most effective and least effective features of the program.

_____ Your Name

_____ Your Title

_____ Name of your Skill Center

_____ Address of your Skill Center

Thank you very much for your time in answering the questions. Please mail the completed questionnaire to:

Dr. Violet S. Thomas
College of Education, The University of Arizona
Tucson, AZ 85721

APPENDIX B

Even though a skill center was not selected as one of the five to be described as the most "successful," features of their training methods worth mentioning are presented here.

Butte Vocational Technical Center, Butte, Montana. The Butte Vocational-Technical Center, providing quality education and training, functions to meet the job requirements of today in industry, business, professional and public service.

The Butte Vocational-Technical Center, occupied in 1969, has 48,100 net assigned square footage of classroom and laboratory space situated over two floors. The facility, adjacent to Butte High School, has parking area capable of handling all student parking. A data processing facility which serves School District No. 1 is housed in the Center. The Center's Practical Nursing program utilizes the United States Naval Reserve Training Center at Clark's Park for classroom instruction and St. James Community Hospital, Silver Bow General Hospital and the Butte Park Royal Nursing Home for clinical experience.

General and special advisory committees composed of representatives of business and industry meet periodically with the Center's administration and staff to advise on the overall operation of the Center and the specific training programs. This helps to keep each program updated as to the latest developments and equipment used in the various areas.

The Resource Center of the Butte Vocational Center is expanding yearly. Individual study booths provide privacy for each student. The Resource Center serves the students and faculty by introducing periodicals, trade and industrial texts, reference works, biography, fiction and non-fiction, occupational information and magazines.

Programs of Study include:
Health Occupations (Practical Nursing)
Office Occupations
- Clerk-Typist
- Stenographer-Secretary
- Bookkeeper-Accountant
- Legal Secretary/Medical Secretary
- Key-Punch Operator

Technical Occupations
- Electrical Technology
- Civil Engineering Technology

Trades and Industrial Occupations
- Automotive Mechanics Technology
- Drafting Technology
- Machine Tool Operation Technology

Small Engine Repair
Welding Technology

Seattle, Washington/OIC. This program was implemented in December, 1978. The goal of the course is to provide students with the trade skills and knowledge necessary to gain employment as an "Electronics Assembler" (Basic), or an Electronics Assembler (Advanced).

The scope of the course is twenty-nine (29) weeks, 943 hours. The instructional methodology is:

1. Training conducted on an open entry/exit basis.
2. Training is both theory and practical (70% Practical and 30% Theory).
3. Instruction is competency based; students progress by the accomplishment of measurable enabling objectives, all geared to the requirements/standards of industry.
4. All practical learning is organized by progressive work stations in the shop.
5. Comprehensive written and practical examinations are given at the completion of each unit of instruction.

The training area was developed through the cooperation and assistance of seven (7) major employers, who formed an "Advisory Committee," designed to provide input into the design of the program, needs/requirements/standards of industry, trends, and techniques for training.

The "Technical Advisory Committee" also, provide on-site technical assistance by conducting lectures, giving presentations, or assisting students in developing required skills. Through the members of the Technical Advisory Committee, students are given the opportunity to spend one (1) week working in industry, coupling classroom training with practical training. The most effective feature of the program was the "partnership" formed with industry via the Advisory Committee.

Mercer County Vocational Technical Schools, Trenton, New Jersey. The purpose of the Adult Vocational Technical Center is to serve citizens of Mercer County by:

1. Providing an opportunity to concerned individuals to learn an entry level trade or skill in an area of their interest and ability.
2. Providing entry level skills for careers in business, trade and industry.
3. Providing work experience wherever practical and relevant to supplement course instruction.
4. Providing vocational guidance and counseling services so that career opportunities and job placement are relevant to the student's occupational program.

Fact Sheet

Name: Mercer County Vocational Technical Schools Adult Vocational Technical Center

Address: 942 Prospect Street Trenton, New Jersey 08618

Telephone: (609) 392-0400

Type of School: Post-secondary training facility designed to serve adults interested in obtaining skills and/or upgrading existing skills in various vocational-industrial career areas.

School Schedule: 12 month/year
Full-time day 8:30 a.m. to 3:30 p.m.
Monday through Friday

Course Duration: Determined by employer standards and the individual job goals and abilities of the student. Generally 24 weeks depending upon assigned program. Distributive Education is a twelve-week program.

Costs: Mercer County Resident - No Tuition
Non-Mercer Resident - As determined by course length and content.

Admissions:
...Applications accepted all year round.
...Range of acceptability is open, based upon applicant's record, reference, interest, attitude, maturity, chosen training area, demands of employer in a chosen field.
...Policy: To accept only those applicants who are likely to successfully complete the selected course of study and to obtain positions consistent with their career goals.
...Both men and women invited to train in any area they so desire.
...Anyone who has left school not eligible for entrance unless off school register for 6 months.
...High School Diploma or Equivalency not a general requirement for admission - required only if dictated by particular course area.

Financial Aid:
...The Adult Vocational Technical Center does not offer stipends for training.
...Courses Veterans approved and State Department of Labor & Industry approved; State Department of Education approved.

Special Services & Facilities:
...Cafeteria
...Professional Counseling staff with assessment and job placement service.

...Work Experience

Course Offerings:
...Graphic Arts (Printing)
...Typing & Secretarial Office Procedures (Clerical)
...Stenography (proposed)
...Automotive Repair & Service
...Welding (Cutting)
...Air Conditioning & Refrigeration - Mechanic Helper
...Distributive Education (Retail Sales)
...Pre-Vocational Shop (Exploration and Assessment Proposed)
...Developmental Reading (Related Education)
...Developmental Math (Related Education)

Referral Procedure:
...Referral may be made by a school or agency through use of a Referral Notice which may be obtained from the Adult Vocational-Technical Center.
...Individual applications may be obtained from the Counseling Department at the Adult Vocational Technical Center.
...Referrals from high schools for graduating seniors will be accepted beginning April of each year.

MCVTS - Adult Vocational-Technical Education; A Needs Assessment Study, Summary Report 1978:
...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER be organized around the occupational/career cluster concept.
...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER provide facilities and programs selected from the following occupational/career clusters:

Business and Office
Communications
Construction
Food Services/Hospitality
Health Occupations
Manufacturing and Product Services
Marketing and Distribution
Public and Community Services
Technology
Transportation

...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER provide career assessment, career counseling, and job placement services for adults seeking entry level training, upgrading on present jobs, retraining to combat skill obsolescence or retraining for career change to the extent necessary to assure high quality vocational and technical education.

...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER be planned with maximum flexibility so that programs can be established quickly and phased out quickly in accordance with manpower demands.

...It is recommended that a part of the facility of the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER be reserved as a "quick start" industry training facility which can be utilized to meet special training needs of new or expanding Mercer County businesses and industries.

Vocational education must be able to train an initial labor force for the start up of a new or expanding industry and provide training for existing industries to keep the current work force updated. Such "quick start" training must be provided on short lead time. There is evidence from many parts of the nation that availability of adult vocational-technical education will attract new industry.

...It is recommended that a continuous planning, assessment, and monitoring system be established within the administrative framework of the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER to assure program relevance to the needs of both employers and prospective students.

...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER make every effort to increase available services to women, both in the sense of providing greater number of training spaces to a wider spectrum of women and in the sense of providing women with training opportunities in traditionally male-dominated occupations.

...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER include both the specialized facilities and modified program units that are necessary to render effective services to the handicapped adult.

...It is recommended that the proposed MERCER COUNTY ADULT VOCATIONAL-TECHNICAL CAREERS CENTER, both before and after its establishment, emphasize a fully operational and effective "communications network" so that vital and mutually beneficial information may flow in all directions among center, employers, students and the community at large.

Tucson Skill Center, Tucson, Arizona. BILINGUAL COMPONENT: This concept provides for flexibility in most clusters at the Tucson Skill Center. That is, instruction is available in both English and Spanish. The objective is to make the trainees functional in their skills in both languages.

Input from industry regarding training content, source of necessary equipment, and instructor qualifications are essential. Most important to success in responding

so quickly is a high level of involvement by industry.

Successful "Quick Start-Up" Programs

From responses received, five programs were selected as being the most successful. A description of these programs is given here in detail.

1. Northern Kentucky State Vo-Tech, Amsterdam Road, Covington, Kentucky 41011 (This information is from their brochure.)

Kentucky Industrial Training

KIT stands for Kentucky Industrial Training. And KIT means that we do everything it takes to help provide industry with the skilled manpower it needs to operate at peak profitability in Kentucky.

KIT means a Start-Up program second-to-none. We offer a pre-hire training program that provides the knowledge and skills necessary for prospective employees in new industry. First, KIT carefully selects Kentuckians for specific jobs for specific companies. The chosen trainees usually attend the training sessions on their own time and without pay, giving both the company and the prospective employee a chance to look each other over before any employment commitment is made. Because the KIT Start-Up program is thorough, professional and fast, it helps the company reach maximum productivity in a minimum amount of time.

KIT means a continuing program of industrial training and vocational education. The KIT backbone is comprised of 14 state vocational and technical schools and 69 area vocational education centers strategically located throughout the Commonwealth--and the number of schools and training programs is ever-increasing. These are modern, well-equipped centers staffed by qualified personnel. And so strategically are the centers placed that student or trainee is seldom more than 25 miles from one. Kentucky's Continuing program is an excellent source of trained personnel--not only for new industries, but for existing and expanding industries within the state.

KIT means Up-Grade Training. For the established Kentucky company with a need to up-grade or retrain its employees, all of the vocational-technical schools offer supplementary trade extension courses. When an employer makes his needs known for up-grading, KIT does the rest. KIT will even bring in outside instructional experts to the nearest

Continuing Programs in Kentucky Vocational Schools

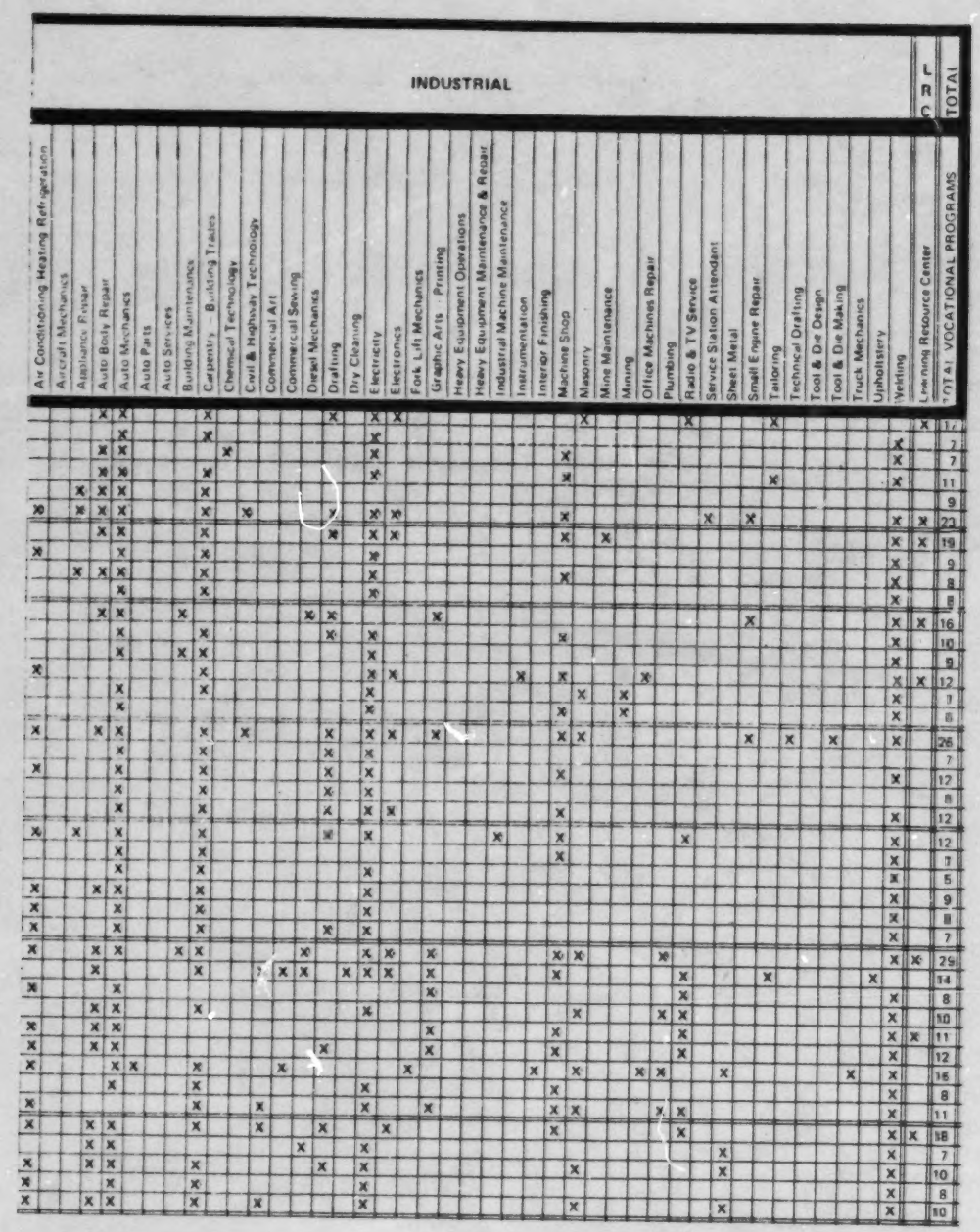
LEGEND

- X – A regular, on-going program offered during the day
- (A) – A regular, on-going program of short-term courses for adults, usually in the evening
- (M) – Health Annex of Madisonville SVTS
- (G) – Health Annex of Bowling Green SVTS
- (P) – Health Annex of Harlan SVTS
- (D) – Health Annex of Central Ky. SVTS

SVTS – State Vocational-Technical – These offer day programs primarily for full-time postsecondary students. Short term adult courses for upgrading purposes are not listed here. Call the school for information.

AVEC – Area Vocational Education Centers – These offer day programs, primarily for high school students enrolled in local schools. Short term adult courses for upgrading purposes are not listed here. Call the school for information.

		AGRIC.			BUSINESS AND OFFICE				CONSUMER AND HOME EC.					D E	HEALTH & PERSONAL SERVICES OCCUPATIONS												
		Adult and Young Farmer	Horticulture	K.E.E.P. (Equine Education)	Accounting/Jr. Management	Clerical	Data Processing	Secretarial	Child Care Services	Clothing Services	Commercial Foods	Consumer & Family Life Skills	Food Services	Marketing & Distributive Education	Barbering	Certified Laboratory Assistant	Cosmetology	Dental Assisting	Health Careers	Medical Assisting	Medical Secretary	Nurse Orderly Assistant	Practical Nursing	Pre-Health	Radiologic Technology	Respiratory Therapy	Surgical Technician	Ward Secretary
REGION 1	WEST KY. SVTS				X	X	X	X			X				X		X											
	Fulton County AVEC				X	X		X																				
	Marshall County AVEC													X														
	Mayfield AVEC	A				X		X											X									
	Murray AVEC	A				X		X						X									X					
	Paducah AVEC											X		X			X		X			X	X		X	X	X	
REGION 2	MADISONVILLE SVTS	A										M				M			M		M		M		M	M	M	
	Caldwell County AVEC	A									X	X							X									
	Christian County AVEC	A																	X									
	Muhlenberg County AVEC				X	X		X											X									
REGION 3	DAVIESS COUNTY SVTS	A				X		X	X				X	X			X											
	Henderson County AVEC					X		X						X					X									
	Ohio County AVEC				X	X		X											X									
	Owensboro Vocational School																		X			X	X					
	Union County AVEC																		X									
	Webster County AVEC																		X									
REGION 4	BOWLING GREEN SVTS	A				X		X			X	X		X					X				G	X		G	X	
	Allen County AVEC				X	X		X																				
	Barren County AVEC	A			X	X		X											X									
	Monroe County AVEC	A			X	X		X																				
	Russellville AVEC	A			X	X		X											X									
REGION 5	ELIZABETHTOWN SVTS										X								X									
	Breckinridge County AVEC				X	X		X																				
	Grayson County AVEC																		X									
	Marion County AVEC					X		X											X									
	Meade County AVEC								X					X					X									
	Nelson County AVEC																		X									
REGION 6	JEFFERSON SVTS and MSC		X		X	X	X	X	X		X	X		X			X	X		X		X	X				X	
	Ahrens Vocational Center																		X									
	Bullitt County AVEC										X			X					X									
	Fairdale AVEC										X								X									
	Jeffersontown AVEC					X		X											X									
	Pleasure Ridge Park AVEC		X								X			X					X									
	Scott Detrick AVEC		X				X										X											
	Shelby County AVEC				X	X		X																				
	Westport AVEC												X															
REGION 7	NORTHERN KY. SVTS					X	X	X	X		X						X						X					
	Boone County AVEC																		X									
	Campbell County AVEC																		X									
	Carroll County AVEC					X		X											X									
	Kenton County AVEC																		X									


INDUSTRIAL
Air Conditioning Heating Refrigeration
Aircraft Mechanics
Appliance Repair
Auto Body Repair
Auto Mechanics
Auto Parts
Auto Services
Building Maintenance
Carpentry - Building Trades
Chemical Technology
Civil & Highway Technology
Commercial Art
Commercial Sewing
Diesel Mechanics
Drafting
Dry Cleaning
Electricity
Electronics
Fork Lift Mechanics
Graphic Arts - Printing
Heavy Equipment Operations
Heavy Equipment Maintenance & Repair
Industrial Machine Maintenance
Instrumentation
Interior Finishing
Machine Shop
Masonry
Mine Maintenance
Mining
Office Machines Repair
Plumbing
Radio & TV Service
Service Station Attendant
Sheet Metal
Small Engine Repair
Tailoring
Technical Drafting
Tool & Die Design
Tool & Die Making
Truck Mechanics
Upholstery
Welding
Learning Resource Center
TOTAL VOCATIONAL PROGRAMS
TOTAL

LEGEND

X — A regular, on-going program offered during the day
(A — A regular, on-going program of short-term courses for adults, usually in the evening
(M — Health Annex of Madisonville SVTS
(G — Health Annex of Bowling Green SVTS
(P — Health Annex of Harlan SVTS
(D — Health Annex of Central Ky. SVTS

SVTS — State Vocational-Technical — These offer day programs primarily for full-time postsecondary students. Short term adult courses for upgrading purposes are not listed here. Call the school for information.

AVEC — Area Vocational Education Centers — These offer day programs, primarily for high school students enrolled in local schools. Short term adult courses for upgrading purposes are not listed here. Call the school for information.

		AGRIC.			BUSINESS AND OFFICE			CONSUMER AND HOME EC.					DE	HEALTH & PERSONAL SERVICES OCCUPATIONS												
		Adult and Young Farmer	Horticulture	K E E P (Equine Education)	Accounting & Management	Clerical	Data Processing	Secretarial	Child Care Services	Clothing Services	Commercial Foods	Consumer & Family Life Skills	Food Services	Marketing & Distributive Education	Barbering	Certified Laboratory Assistant	Cosmetology	Dental Assisting	Health Careers	Medical Assisting	Medical Secretary	Nurse Orderly Assistant	Practical Nursing	Pre-Health	Radiologic Technology	Respiratory Therapy
REGION 9	Maysville AVEC	A										X														
	Montgomery County AVEC				X	X		X																		
	Morgan County AVEC	A																								
	Rowan County AVEC	A				X		X											X							
REGION 10	ASHLAND SVTS					X		X	X				X				X		X				X			
	Boyd County AVEC								X	X									X							
	Carter County AVEC																									
	Greenup County AVEC		X			X		X											X							
	Russell County AVEC																		X							
REGION 11	MAYO SVTS				X	X	X	X				X						X					X			
	Floyd County AVEC				X	X		X											X							
	Martin County AVEC					X		X																		
	Pike County AVEC (Belfry)																									
	Pike County AVEC (Millard)																									
	Pike County AVEC (Phelps)																									
REGION 12	HAZARD SVTS					X		X				X	X				X							X		
	Breathitt County AVEC					X		X																		
	Knott County AVEC					X		X																		
	Lee County AVEC	A				X		X												X						
	Leslie County AVEC					X		X												X						
	Letcher County AVEC					X		X																T		
REGION 13	HARLAN SVTS												X	X												
	Bell County AVEC												X							X						
	Clay County AVEC																									
	Corbin AVEC																			X						
	Knox County AVEC																			X						
	LAUREL COUNTY SVTS												X					X			X					
	Rockcastle County AVEC				X	X		X																		
REGION 14	SOMERSET SVTS						X	X	X											X						
	Casey County AVEC			X		X		X												X						
	Clinton County AVEC					X		X												X						
	Green County AVEC					X		X												X						
	Russell County AVEC																			X						
	Wayne County AVEC					X		X																		
REGION 15	CENTRAL KY. SVTS			X		X		X				X	X		A			X		D			X	D		
	Clark County AVEC																			X						
	Fayette County AVEC		X																	X						
	Franklin County AVEC														X											
	Garrard County AVEC																			X						
	Harrison County AVEC					X		X												X						
	Harrodsburg AVEC					X		X																		
	Madison County AVEC					X		X																		

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| INDUSTRIAL | | |

vocational-technical center and, in some cases, directly to the plant or office.

The Start-Up KIT. Kentucky's Start-Up Program. For new industry moving into the Commonwealth--or for an existing Kentucky industry with plans for expansion within the state--KIT's Start-Up Program gets things going fast.

You tell us what your requirements will be...and we'll start the wheels in motion. The planning session is first. State representatives and industrial training experts will sit down with members of your company and analyze your needs. Together, KIT and your company will formulate a start-up schedule. It's an important first step, because we want you to have the right number of skilled workers available when you need them.

KIT will draw up a training plan. The plan will spell out everything, including the location of the training facility. Training facilities may be set up in an area vocational-technical center, in the plant, or in rental facilities near the plant site. This facility is then equipped with production or technical equipment comparable to that of your company. Most equipment, materials and facilities used for training are furnished by Kentucky at no cost to you.

KIT provides the best qualified instructors--free. If instructors can't be borrowed from the company's own staff, KIT will bring in qualified instructors from the outside. In either event, Kentucky will pay for teaching costs.

KIT selects the best trainees. Through the Kentucky Bureau for Manpower Services, prospective employees are recruited, tested and screened in accordance with the company's hiring specifications. However, the company makes the final selection before actual training begins. Trainees usually attend sessions on their own time and without pay.

KIT moves Start-Up to On-the-Job. Trainees selected for employment by the company move from the pre-hire training program into on-the-job training, but are still supervised by instructors so that skills can continue to be sharpened under production conditions. During this transitional period, Kentucky still pays the instructional costs.

A Start-Up KIT can cut costs. A pre-trained work force can save your company thousands of dollars. It means less start-up time and higher production because trained employees can meet quotas from the very beginning. Too, waste is reduced because costly production mistakes are decreased, and personnel turnovers are fewer due to pre-screening of trainees.

A Start-Up KIT that's made for you and paid by us. Each Start-Up Program is tailor-made to your company's specific requirements. It is supervised jointly by company and state, and evaluated by both at the program's termination with Kentucky paying the negotiated cost.

Kentucky has one of the finest systems of Vocational Education in the country. And no matter where a company locates within the state, there is an area vocational-technical center within a 25-mile radius. The centers virtually blanket the state. Presently, there are 14 state vocational and technical schools and 69 area vocational education centers--but the number is increasing at a steady rate. In addition, over 300 high schools serve as "feeder schools" to these vocational institutions.

Kentucky's continuing vocational-technical program offers training for over 70 different occupations. To name just a few of the programs, we offer farming and related occupations in the field of agribusiness; data processing, secretarial and clerical training in the field of business; cosmetology and surgical technology in the field of health and personal services, and marketing and distributive education in the field of sales. The largest category, industrial occupations, includes aircraft maintenance, electricity and electronics, drafting diesel mechanics, heavy equipment operation, machine shop, welding and sheet metal--among many others.

The Industrial Coordinator reported that during 1979 they completed the quick start program that was begun during the 1978 school year. The total program trained 285 employees as coil winders, finishers, and quality control inspectors. Recruitment was accomplished by the Department of Human Resources, using criteria furnished by the company. Vocational Education assisted with the development of the training plan, remodeling vacant school buildings, which were used until the new plant was constructed. Instructors were employed from the company's own staff with salaries paid from vocational education funds received through the New and Expanding Industries Unit in the Bureau of Vocational Education.

II. Start-Up Training in Mississippi

Program Development Guide -(Compiled by Kent Brooks, Keith Herring, and Howard Newby)

The Management of Start-Up Training Programs

Recent industrial growth in Mississippi has raised the curtain on numerous occupations or major job functions for which there is a shortage of trained manpower. Existing vocational-technical curriculums do not cover many of the new jobs now open in these new industries. In many instances, existing facilities and equipment in industry cannot be duplicated or simulated in educational institutions to provide realistic job training. A new way has been found for minimizing these problems through direct use of industry resources for specialized instruction. It is called "start-up training" and has received top priority from the Vocational-Technical Division of the Mississippi State Department of Education.

A start-up training program provides a pre-trained work force for an industry that is locating in the State or for an expanding industry within the State. The prospective employees who participate in each program learn new skills which enable the new industry to achieve maximum productivity at a rapid pace.

Start-up training programs are extremely complex because of the large number of tasks which must be completed in a relatively short period of time. The complexity of such training programs is magnified because of the multiplicity of agencies involved in the training programs. Their individual activities, roles, and functions require a high degree of coordination. The program coordinator and his staff seldom have more than four months to complete a training assignment.

Each start-up training program is directed toward one single industry, plant, or firm which manufactures or constructs a particular type of product. Therefore, a single set of objectives is identified and the program is terminated upon the accomplishment of these objectives. The development and accomplishment of the objectives require a series of procedural steps. These steps can be classified according to the following phases of work: (1) establishing rapport; (2) identifying program objectives; (3) specifying training methods/means; (4) conducting the training; and (5) evaluating the program.

The following paragraphs bring the steps in this process into prospective and describe their relevance to start-up training programs. The accomplishment of these steps presents a formidable management problem. However, program success can be achieved through efficient scheduling and viable relationships among persons and agencies involved. Coordination, communication, and decision-making capabilities are the vehicles for conducting a training program. Rapport among agencies and individuals must be

established early in the program.

PHASE I: ESTABLISHING RAPPORT

Determine when to begin planning for the start-up training program. Program planning should not begin before the industry has made a firm commitment to locate its plant somewhere in the State. A rule of thumb is to begin work after the industry has acquired a plant site and has accepted the bid for plant construction. A commitment to locate may become known through the Mississippi Agricultural and Industrial Board, the Mississippi Economic Council, the Mississippi Research and Development Center, or any of the many area development groups which are working with the prospective industry. The State Coordinator of Industrial Training, located in the office of the State Division of Vocational-Technical Education, works confidentially with industrial development groups and the industry to initiate recruiting and training activities. The quick-response, coordinated network of training is administered by the State Division of Vocational-Technical Education through the state-wide system of junior colleges and high school training centers. The local director of vocational-technical education will be notified immediately after an industry has expressed interest in a start-up training program. A visit to headquarters of the parent company usually is necessary to analyze in detail the training needs. A visit would probably not be necessary if the parent plant has an ongoing company-sponsored training function and only needs assistance in implementing the function in the new plant.

Assign a coordinator to the program. The program coordinator should have the authority required, at any point in the program, to make decisions which will help achieve training goals. He should be provided sufficient time to monitor the program from beginning to end, initiate corrective action when necessary, and facilitate the work of the program staff. It is recommended that the local director of vocational-technical education assume this role.

Identify the liaison contact with the industry. Manpower and training information is obtained from the parent plant which is usually located in another state. A person from the parent industry must be assigned to coordinate all training and resource needs from the parent plant. However, the local director/coordinator has a responsibility to follow up on commitments made by the industry.

Define in writing the responsibilities of each leader of various segments of the start-up program. The definition of those responsibilities should be a joint task of the educational institution and the new industry. This should be accomplished during the initial meetings between

industry representatives, the school, and other agencies, such as the Mississippi Research and Curriculum Unit (R/CU) for Vocational-Technical Education at Mississippi State University, which will be involved in the program. The delineation of responsibilities must coincide with the development of the lead-time schedule of program activities. The lead-time schedule pinpoints the recruiting, testing, selecting, and training dates. It will be necessary to review and revise these plans and responsibilities at appropriate points during the program. The industry must cooperate fully with the program coordinator in furnishing needed information during planning, conducting, and evaluating the training program.

PHASE II: IDENTIFYING TRAINING OBJECTIVES

Identify the manpower requirements of the industry. In addition to describing the number of workers in the various skill areas, this task includes specifying personal characteristics and experience requirements for each prospective employee. The levels of performance desired at the completion of the training program and future in-service training needs should also be identified early in the project. These requirements must be shared with the person who will direct the recruitment, testing, and selection of trainees.

Identify the date for plant start-up. The lead-time schedule of training activities must be keyed to the dates established for initial start of plant production. All training materials must be developed or compiled prior to the dates established for each phase of training; therefore, a realistic period of time must be allowed for the development and implementation of various phases of training. The time available to prepare workers will also dictate the depth and type of training which can be provided.

Determine how many people will be enrolled in the training program. If the industry has 50 jobs to fill, a decision must be made whether to enroll 50 workers or to train more than 50 workers to insure an adequate supply of prospective company applicants. Some prospective employees who enroll in a start-up training program are not satisfactorily placed in jobs for the following reasons: (1) they do not successfully complete the program; (2) they refuse the employment offer; or (3) the company does not offer employment to the prospect.

Determine how many people are available for training. The time necessary for training will depend upon the current skills of prospective employees. A survey of prospective employees may show that extensive training is not necessary. An important factor to remember is that training must be keyed to the hours that prospective employees

are available for training.

PHASE III: DETERMINING TRAINING METHODS/MEANS

Determine if cross training will be needed for key jobs. More lead-time will be required to train personnel in multi-skilled areas. Jobs requiring "back-up" personnel must be identified early so that the proper criteria can be established for recruiting prospective employees. Certain precautions must be taken during the training program to insure adequate training in each area. Overtraining prospective employees should also be avoided, since this is economically unsound in start-up training programs.

Determine if both pre-employment and on-the-job training are needed. One or two weeks of orientation to the industry will help familiarize trainees with plant characteristics and industrial needs. However, direct use of industrial resources for specialized instruction in multi-skilled jobs is often the best method to handle certain phases of skill development needed for initial plant production. It is usually possible to provide some detailed manipulative instruction in the school facility by using industry resources. In cases where the industry equipment cannot be installed in the school facility, detailed training must be accomplished at the plant site. In either case, it has been found that additional training will be required after the workers are on the job. The educational institution must decide whether or not to participate in this training.

Determine how instructors, equipment, and supplies will be furnished for training. Coupled with this problem is whether the program will be identified with a specific company or a specific area of training. If the resources are furnished by the company, the program is certain to be identified with the specific industry. It has been found that training programs in areas involving unique technical skills and knowledge are more easily conducted using the industry blue-prints and parts and using plant personnel as instructors. The use of industry resources causes the training program to be more realistic from the standpoint of the trainee since he will be using the same procedures, equipment, and materials during training that he will find when he enters the job.

The instructors for the program should be selected on the basis of: (1) experience and knowledge directly related to the company's training needs and (2) proven success in teaching. Each instructor must be capable of planning and conducting training activities.

It is usually necessary to recruit instructors from sources outside the school, since the prior commitments of instructors in ongoing programs would prevent them from

giving adequate attention to start-up training programs. However, instructors who are involved in similar training functions in the schools should be encouraged to observe the training activities in the start-up program for the purpose of studying current industrial processes.

It is often necessary to set up an educational environment within a short period of time. Preparing a teaching environment includes rewiring a facility to accommodate specialized equipment and arranging for desks, chalkboards, and other training equipment for use during instruction. This requires a great deal of flexibility in program administration and management, including quick action on moving basic training equipment from other training programs. It may be necessary to request special services from community groups and individuals to insure that these needs are fulfilled in time for the start of the training program. It is best to postpone the training if essential resources a re not committed to the program on the scheduled start-date.

Acquire a training site. The local director or project leader has the options of using the regular institution or school training facilities, the industry site, or acquiring additional space off-campus for training purposes. If an industry locates at a site outside the immediate vicinity of the school, an off-campus training facility would be beneficial to recruiting prospective employees. The location of training facilities may be selected in cooperation with the community leadership in the area. If the training is held in the regular school facility, provisions must be made to prevent the program from interfering with ongoing programs.

Determine if training aids will be necessary. If so, an instructional materials specialist from the Research and curriculum Unit for Vocational-Technical Education at Mississippi State University should coordinate all activities which are necessary to obtain or develop the needed material. The instructional material specialist develops training manuals and associated lesson plans, prepares slide and audio tape presentations, and assembles training aids of various kinds from many sources. If training materials are to be developed by R/CU personnel, the individual responsible for the development of these instructional materials should be present at initial and subsequent policy meetings. The effectiveness of a media specialist is limited if industrial decisions and training plans continually change; therefore, any decision affecting instructional materials development must involve the individual who is responsible for the development of training materials.

Determine if regular students in other vocational-technical program will be allowed to participate in the start-up training program. Most start-up programs are offered in the evening; thus, it would be possible for any students to enroll without losing credits. Some phases of the instruction could serve as valuable supplemental career development units for students enrolled in two-year programs. However, it may be necessary to limit enrollment in start-up programs to only persons who will be available for employment after training.

Determine who will recruit, test, screen, and refer prospective employees to the training program. This task involves identifying: (1) the geographic area in which manpower can be located, (2) the skills that exist among workers in the area, (3) the number of workers with these skills who are likely to apply for training, and (4) the attitudes of potential job-seekers toward the company. The Mississippi Employment Service will assist in the screening of applicants for local training programs. The educational institution may elect to take full responsibility for administering pre-selection tests as an objective means of detecting strengths and weaknesses of training applicants. If such tests are used, it is the responsibility of the school to relate the performance on the tests to instructional plans.

The area offices of the State Employment Service have performed key roles in past start-up training programs. These roles have included publicizing the programs in their locale, counseling individuals interested in the training program, recruiting and referring applicants to the program, and placing graduates in jobs.

PHASE IV: CONDUCTING THE TRAINING

Determine if a teacher-training program is needed for the project staff. This program should be geared to helping the instructional staff understand: (1) the goals of training, (2) how to use the training aids prepared for the program, (3) appropriate teaching techniques to obtain desirable levels of performance, (4) counseling roles, and (5) evaluation techniques. These tasks are cumbersome unless the best instructors available are recruited for the start-up training program.

Establish a routine of "positive discipline" in the training program. Although the program should be conducted in an atmosphere of congeniality, it must be operated in an efficient manner and in accordance with standard work practices of the industry. The training program should parallel working conditions as nearly as possible. Each prospective employee must be made aware of policies and conditions which will affect future work habits. He should also be made

aware of vital roles he will play when plant production begins. Special emphasis should be placed on attitude training, because this one factor affects all levels of industrial management and worker productivity.

Conduct each training session from an agenda developed by the project staff. Each staff member should have definite assignments in terms of the results expected. Then the program coordinator should continuously monitor the evolving aspects of the training program. Additionally, the coordinator should provide the training staff with a periodic summary of what remains to be accomplished and should adjust the strategy of training to the ever-changing demands of the prospective employees. Flexibility is a key factor in any training program; therefore, tentative plans for unexpected changes must be included in the program agenda.

PHASE V: EVALUATING THE PROJECT

Set aside time periodically to examine the effectiveness of the training activities. The program director/coordinator should direct an evaluation which covers the process of training and the accomplishments of the trainees. A summary of the program evaluation should be sent to the R/CU staff for review and possible implementation in future training programs. Evaluation is essential because it helps identify specific worker characteristics and procedural training problems which occur under certain conditions.

Review the ratings and accomplishments of each trainee periodically with the prospective employer. This review is important because the new company must base the start of production operations on the skills and aspirations of the candidate employees.

Recognize the educational accomplishments of each graduate. It has been found that the presentation of certificates of achievement to each graduate is a high point in the start-up training program. This session should not be taken lightly. It is most beneficial to all concerned when planned separately from the regular instructional plans. Certificates seem to be appreciated less when presented haphazardly during the last instructional session.

Assist all graduates in finding employment. Start-up training programs may serve to build up much enthusiasm because of the job opportunities that may become available for the graduates. However, some graduates will decline employment with the particular industry for which the training was held. Also, the company will decline to hire some applicants. The educational institution has an obligation

to try to provide placement services for all who need this assistance. The procedure is usually to refer all graduates to the area office of the Mississippi Employment Service where every effort is made to find suitable employment for the graduates.

Enlist industry cooperation for a post-project on-the-job evaluation of employees. This aspect of the start-up program is essential to improving future training efforts. An agreement of post-project evaluation requirements should be reached prior to a commitment to assist the industry in a training program. Post-project evaluation is particularly valuable during the critical early weeks of plant production. It should involve both the workers and industry management officials and include detailed discussion and observation of the attitudes and abilities exhibited by those who participated in the start-up training program. If possible, the evaluation should include, as a comparison group, new workers who were hired by industry, but who did not participate in a start-up training program.

In summary, the processes presented here are general in nature, but emphasis has been given to basic guidelines for program planning and control. Educational institutions, manpower agencies, and industries are challenged to analyze these processes, use them when possible, and improve them as necessary.

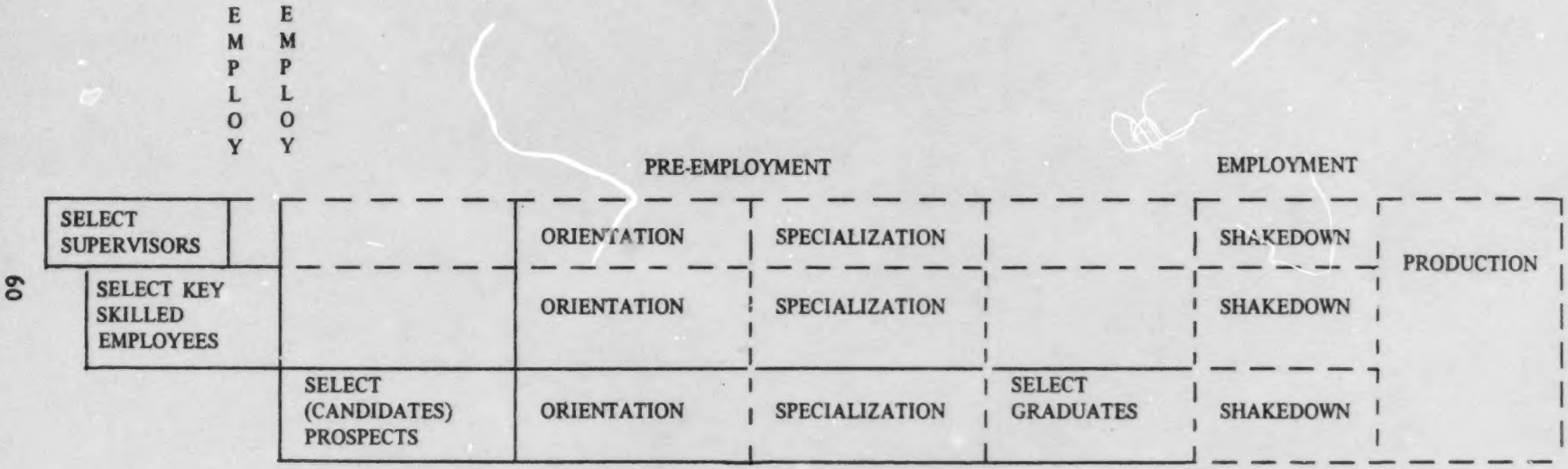
Typical Programs

During 1972-73, a variety of new and expanding industries benefited from start-up training programs in Mississippi. The skills required for the starting work force in each industry were defined in detail and training programs were designed to match the industry's start-up plans. Special operations manuals and other quality training aids were developed or compiled for use in each training program. Modern training facilities and equipment were arranged for each training program, and qualified instructors were employed to implement the latest industrial teaching methods in preparing each start-up work force.

A schematic outline which shows the structure of a typical start-up training program is presented in Chart 1. Low risk employees, such as supervisors and maintenance personnel, are hired initially by the new industry. These employees become oriented to the industry through specific assignments on equipment installation and plant preparation. Some receive intensive training on equipment which requires specialized installation, operation, and maintenance. The specialized training is either provided by the parent plant and/or the equipment manufacturer. These employees receive first consideration when instructors are selected for the pre-employment training program.

CHART 1

PRE-PRODUCTION TRAINING



60

The initial period of training includes orientation instruction for all prospective employees. The purpose of orientation is to show how the job for which they are training fits into the entire production process. The mode of training becomes more specialized as occupational roles are clarified.

Graduates of the pre-employment training programs are employed on the basis of their interest in jobs, aptitude and ability to perform work assignments, and their ability to work in harmony with future supervisors and fellow employees. The pre-employment training is followed by a period of on-the-job training (shakedown). The initial on-the-job training is a period of readying men and equipment for plant production. This training also focuses on developing the skills and rhythm to operate equipment and/or construct and assemble parts on a productive basis.

Information about several industries which benefited from start-up training programs during 1973 are shown in Chart 2. These programs were developed through cooperation of the State Division of Vocational-Technical Education, junior college departments of vocational-technical education, area offices of the Mississippi Employment Service, and the Research and Curriculum Unit at Mississippi State University.

The training program conducted at Bruce, Mississippi for Weyerhaeuser's Southern Pine Sawmill was three weeks in length and covered 36 hours of instruction. All classes were held at night. People who desired training for the forest products industry filed an application with the area office of the Mississippi Employment Service. Personnel in this office interviewed, screened, and referred applicants to the training program. One week of orientation instruction was conducted in the Bruce High School Auditorium. The remaining two weeks of training were conducted at the Weyerhaeuser Mill. The instructional content included company information, raw material base, terminology, manufacturing processes, units of measurement, grading, safety, and first aid, and detailed hands-on experiences in equipment operation.

The Jackson branch of Hinds Junior College was the site for training assemblers for the Power Breaker Division of Allis-Chalmers. This program was arranged in two phases: (1) a broad orientation to the circuit breaker industry, and (2) intensive skill preparation. A 140-hour program of instruction over a period of 7 weeks was provided for a day class and an evening class. After completing the orientation, three groups were formed for specialized instruction in light assembly, and electrical wiring. Supervisors from the circuit breaker industry were employed by Hinds Junior College to provide detailed skill preparation instruction.

CHART 2 (cond.)

NAME AND LOCATION OF INDUSTRY	AREAS OF TRAINING	TOTAL NUMBER TRAINED AND PLACED TO DATE	TYPE TRAINING AIDS PREPARED	UNIQUE FEATURES OF TRAINING PROGRAM
Milwaukee Electric Tool Corporation Jackson, Mississippi	Nomenclature Quality Control Blueprint Reading Precision Measurement Safety Machining of Aluminum Castings Machining of Steel Parts Assembly of Parts Data System and Tool Room Information	80 Trained 45 Placed	Instructor's guide Fundamentals of machine tools Operations manuals for machining of aluminum and steel parts Operations manual for assembly of parts Filmstrips	Core of prospective employees qualified to administer first aid Program conducted jointly by MDTA and start-up training Specialized equipment was installed as a special project by students in the industrial electricity class
Packard Electric Company Division of General Motors Corp. Jackson, Mississippi	Supervisory Training Economics of Manufacturing Human Relations Building Automotive Wiring Harnesses	1,000 Trained 900 Placed	Instructor's guide for teaching work and life adjustment skills	Development of personal responsibility in daily effort – Project "Pride" Realistic assembly line training in school facility
Wilton Castings Corporation Pontotoc, Mississippi	Orientation Melting Molding Coremaking Cleaning and Finishing On-the-job training for production	38 Trained 38 Placed	Training guide Text materials covering the training area	Instruction on attitude development Field trip to a foundry Specialized training conducted by outside resource personnel

CHART 2

TYPICAL INDUSTRIES SERVED BY START-UP TRAINING

NAME AND LOCATION OF INDUSTRY	AREAS OF TRAINING	TOTAL NUMBER TRAINED AND PLACED	TYPE TRAINING AIDS PREPARED	UNIQUE FEATURES OF TRAINING PROGRAM
Weyerhaeuser Southern Pine Sawmill Bruce, Mississippi	Nomenclature Safety and First Aid Quality Control Grading Basic Math Hands-on Job Explanation	90 Trained 70 Placed	Orientation manuals Basic skill manuals Instructor's guide	Human relations training Supervisory skill training
Allis Chalmers, Power Breaker Division, Jackson, Mississippi	Job Orientation Blueprint Reading and Assembly Drawings Safety Quality Control Electrical Wiring Machine Tool Operation Welding Drafting and Design Light and Heavy Assembly	60 Trained 47 Placed	35 MM slides Audio tapes Instructor's guide for each area of training Operations manuals for light and heavy assembly and electrical wiring Knowledge tests	Use of small type circuit breakers to simulate the assembly of large-type circuit breakers Individualized assembly instruction using step-by-step procedure manuals
Modular Publications, Inc. Senatobia, Mississippi	Orientation Typing Proofreading Reading Improvement Paste-up and Stripping Photocomposition Webb Press Operation and Bindery	55 Trained 43 Placed	35 MM slides Orientation manual Instructor's guide for each area of training Participants manual for each area of training Learning activity packets for typing, proofreading, and photocomposition Glossary of terms Pretests and posttests for each area of training	Criterion referenced tests and statistical tests for group behavior changes R/CU instructional materials reprinted as a means for training Press operators and bindery personnel

Two additional instructors provided one hour of supplementary training each day in blueprint reading and safety. Training materials, such as circuit breaker parts and assemblies, were furnished by the industry. Orientation programs were also provided for machine tool operators, welders, and drafting and design personnel.

Modular Publications, Senatobia, Mississippi, provided resources for a training program at Northwest Junior College in lithographic printing processes. Lecture-slide demonstrations and product samples were used to explain major jobs required to complete a publication in an up-to-date lithographic printing plant. Groups were formed for specific training in typing, proofreading, photo-composition, paste-up and stripping, and web press operation and bindery. Groups were further divided into sub-groups and rotated between two or more instructors in order to provide complete coverage of instructional requirements. Prospective employees in typing and photocomposition were cross-trained in proofreading. Joint meetings were held for the groups at appropriate points during the instruction. Most of the training time was devoted to hands-on practice and experience in lithographic processes. The pre-employment training program was four weeks in duration and was held in the evenings. On-the-job instruction was also provided at the new plant after applicants were employed.

Milwaukee Electric Tool Corporation began manufacturing portable electric power tools in its Jackson plant early in 1974. A smooth start-up of this plant was assured after machine tool operators and assemblers were trained at the Jackson branch of Hinds Junior College. Training programs were offered at night on two different occasions. The first program focused on the knowledge and skills required for machining aluminum castings. Candidate employees learned from industry instructors how to perform machine operations on specialized equipment furnished to the school by the industry. The second program stressed machining of steel parts and assembling electric power tools. Participants in both programs were cross-trained in multiple content areas. Each class period was structured so that the participants received one hour of instruction in three different areas each night. The instruction was tailored specifically to industry needs and included the following content areas: precision measurement, safety, blueprint reading, parts and equipment identification, and cutting and assembly tools. The Jackson office of the State Employment Service counseled each person regarding training and job opportunities, notified the candidates of the date and place of training, and notified them of the availability of employment after completion of the program.

III. Maricopa County Skill Center, Phoenix, Arizona

The goal of Maricopa County Skill Center is to provide skill training for the unemployed and underemployed individuals so that they may find employment. To support and supplement their new skills, the trainees receive basic and related education as a part of their occupational training. Since the beginning of the Skill Center in 1964, it has become nationally recognized for its ability to train people who immediately obtain employment.

The Maricopa County Skills Center is organized in an open entry/open exit mode. Learners may enroll on any Monday; progress at their own rate, and be graduated on any Friday.

All vocational courses are organized around "hands-on" learning activities.

Related education is provided as needed.
Instruction is provided through competency-based learning assistance packages.
Learners progress at own rate. Instructor fills role of facilitator and learning consulant.
A complex system of advisory committees serves to keep the center in constant contact with the business and manufacturing community.
A center advisory committee drawn from the community meets two to three times each year to advise staff on policies and overview the program.
Each cluster of job classifications has an advisory committee that meets every 6-8 weeks to review the status of courses in that cluster and advise instructors.
Steering committees advise instructors concerning course scope and sequence. The curricula for a new course is developed with assistance from the course steering committee.

The needs of business and industry are monitored in three ways:

Steering committees have specific curricula under constant observation for both extant and emerging needs that must be met through instruction.
Cluster advisory committees monitor the job placement successes of extant courses and monitor the community for emerging needs for new courses.
Instructors maintain continuous contact with industries and through professional and trade associations. All skill instructors are drawn from industry.

The center has experienced several modes for quick start-up to address needs for trained employees for local industry:

When a general emerging need is identified by one of the advisory groups and/or steering committees, center staff tries to document the need. A course authorized can be established in 30 to 60 days. An instructor is employed to develop curricula with the aid of a steering committee. Center administrative staff work with the instructor to arrange space equipment, books and supplies. Learners are recruited.
When an employer faces a need for employees trained for new occupational roles, center staff work directly with that firm cooperatively to establish a program. For example, Sperry Rand needed a new program for training and retraining inspectors. Sperry Rand planned the curriculum for a 4-week, eight hours per day, training course. The need was established in May, 1979. The program was initiated for upgrading a group of employees on June 25, 1979. Two groups of new hires will be trained in quick succession. All necessary equipment, supplies, and an instructor were supplied by Sperry Rand. The Maricopa Skills Center provided space and support services under a negotiated contract.

In another mode, National Tool and Die needed trained machine shop operators. An arrangement was negotiated to initiate a program at a time when center space was not occupied by extant programs. While the Center operates the course as though it were one of their own, NTD provides an instructor. Learners report at 12:00 noon for related instruction and report to the vocational class at 2:30 PM. This results in an extended day and represents a more effective use of center capital investment. At this time, all places in the course are occupied by CETA personnel.

Good Samaritan Services sponsor a course in medical transcription for disadvantaged students. The contract with Good Samaritan Service meets all costs. Of the first class of 20 learners, 20 were placed. It appears that this will be an ongoing course.
Union local 669 rents space, on Saturdays, from the Center and conducts their own courses limited to apprentices of Union Local 669.

The success of the Maricopa Skills Center is demonstrated in these statistics:

Over-all retention	85%
Placement, Completors	85%
Placement, Cashier Sales	94%
Placement, Key Punch	100%
Placement, Machine Shop	100%

A description of courses offered at Maricopa County Skill Center are as follows:

AIR CONDITIONING: Trainees referred to this cluster preferably should have a high school education or a GED certificate and have or be able to obtain a driver's license. The trainee learns to service and repair domestic air conditioning units and gas furnaces.

AUTO BODY REPAIR AND PAINT: Trainees preferably should have at least the equivalent of an 8th grade education, and have adequate physical tolerance to withstand noise and paint fumes. This training involves the repair of damaged automotive vehicle bodies and body parts, including the straightening of metal parts and the refinishing of painted surfaces.

AUTOMOTIVE: Trainees preferably should have at least an 8th grade education, and have or be able to obtain a driver's license. This cluster is concerned with repair and overhaul of internal combustion engines of automotive vehicles.

BASIC BANKING: Trainees should be bondable and have a high school diploma, GED certificate or be able to complete GED. The cluster gives an overall view of banking, covering all aspects of the various jobs available in any financial institution, not just banks.

CASHIER SALES: Trainees should have good memories for prices, be good with numbers, and have excellent finger dexterity. This cluster includes training concerned with selling and wrapping items, preparing bills for customers, collecting money and making change.

CLERICAL:	Trainees should be dependable, should be able to get along well with others and should have at least the equivalent of a 10th grade education although a high school diploma or a GED certificate is preferred. This cluster provides training in job entry level skills for typing, filing, bookkeeping, recordkeeping, office procedures and data entry.
CULINARY ARTS:	Trainees must be able to obtain a health card, preferably have at least an 8th grade education, and be able to stand for long periods of time. This cluster includes occupations dealing with the preparation, seasoning, and cooking of foodstuffs for consumption in hotels and restaurants.
ELECTRONIC MANUFACTURING MANUAL FABRICATING:	The prerequisite for the electronics class is good eyesight, cannot be color blind, and good manual dexterity. Trainee will learn to install components on printed circuit boards.
GED:	High school graduate equivalency can be achieved by participation in the GED preparation program. In order to participate in the GED program, the trainee must read at least at an 8th grade level.
HOSPITALITY:	Trainees must be able to obtain a health card, have preferably a 10th grade education, have good finger dexterity, and possess social abilities to work with guests and customers. This cluster includes training for the hotel-motel-restaurant business.
MACHINE TRADES:	This machinist trainee sets up and operates machine tools, and fits and assembles parts to make or repair metal parts, mechanisms, tools, or machines.
MEATCUTTING:	Trainees must be able to obtain a health card, preferably have an 8th grade education, and not be color blind.
NURSE ASSISTANT:	This training cluster prepares the trainee with job entry levels skills to give bedside nursing care to the sick or injured patient.
READING:	Trainees receive basic phonetic training.
WELDING:	This cluster includes occupations concerned with welding metal parts together according to layouts, blueprints.

IV. Hinds Junior College, Vicksburg, Mississippi

The Vicksburg-Warren County Branch of Hinds Junior College is primarily a Vocational-Technical facility and is operated as an extension of Vicksburg High School and Warren Central High School during the school day (8 A.M. - 3 P.M.). Adult Vocational, Technical, and Academic classes are offered in the evening (3 P.M. - 11 P.M.) via Hinds Junior College.

METHODS OF INSTRUCTION

Methods of presenting instruction in industrial education include: the demonstration, the lecture, the discussion, directed research, the visual presentation, programed instruction, student-team projects, television, individualized instruction sheets, role-playing, student-directed activity, use of directed references, student work, field trips, writing and presenting a technical report, interviewing an authority, evaluating a project or unit, and testing. Special emphasis is placed on the lecture-demonstration combined method and individualized supervised performance at a work station.

IDENTIFICATION OF DISADVANTAGED STUDENTS

Disadvantaged persons are those who have academic socio-economic, cultural, or other handicaps that prevent them from succeeding in vocational education or consumer and homemaking programs designed for persons without such handicaps, and who for that reason require specially designed educational programs or related services. The term includes persons whose needs for such programs or services result from poverty, neglect, delinquency, or cultural or linguistic isolation from the community at large, but does not include physical or mentally handicapped persons unless such persons also suffer from the handicaps described in this paragraph.

Remedial Education is available to assist the disadvantaged student.

IDENTIFICATION OF HANDICAPPED STUDENTS

Handicapped persons are those mentally retarded who have a level of mental ability which ranges between 50 and 75 percent of average normal intelligence; hard of hearing who through testing have been found to have hearing impairment to the extent that their learning ability is hindered; speech impairment are those who have been found by tests given to qualified speech and hearing personnel to have speech problems; deaf; visually handicapped; seriously emotionally disturbed; and crippled or otherwise handicapped

that will prevent them from succeeding in a vocational or consumer and homemaking education program designed for persons without such handicaps, and who for that reason require special educational assistance or a modified vocational or consumer and homemaking education program.

The Vo-Tech Center complies with Public Law 94-142, Education for the Handicapped Act. HEW 504 regulations are in use in our building layout.

START-UP TRAINING

Start-Up Training is an integral part of the instructional program at Hinds Junior College. It is designed for new industries and expanding industries within the Hinds Junior College district to enable them to have a trained work force to begin or to expand production. Each Start-up training program is designed specifically for an individual industry, upon a request by that industry for a training program. Hinds Junior College provides supervision, instructors, facilities, and often equipment. Funding for the Start-Up Training is made available through the State Department of Education, Vo-Tech Division.

SPECIAL ADULT CLASSES

Any interested industrial or business group which has bona-fide training needs may request a class taught by the Vo-Tech Center when ten or more students are involved. Approximately 150 classes per year of this nature are taught by the Vicksburg-Warren Branch of Hinds Junior College.

A/V EQUIPMENT

Micro-Fiche
Film Strip Projectors
Overhead Projectors
Video Tape
Craig Readers
Language Masters
16 MM Projectors
35 MM Camera
Slide Projectors
Tape Recorders

TYPES OF VO-TECH PROGRAMS AND INSTRUCTIONAL AREAS

Instruction is offered in a variety of areas including: Machine Shop, Auto Mechanics, Brick Masonry, Carpentry, Electricity and Wiring, Drafting, Business and Office, Nursing, Clerical Practice, Nurse Aid, Distributive Sales and Marketing, Basic Education for G.E.D., Auto Serviceman, Welding, Technology, Firemanship, Remedial skill development, and others.

Types of programs available are: Manpower-CETA, Adult Supplementary, Adult Basic, Vocational Trade Preparatory, Vocational Apprenticeship, Secondary Vocational, Technical Adult, Teacher Training Workshops, Start-Up Training, and Special Adult.

GUIDANCE TESTING SERVICES AT THE VO-TECH CENTER

*Professional Administrative Career Examination (PACE)
General Aptitude Test Battery (GATB)
*Pre-Admission Assessment for Practical Nurses (PAAPN)
Otis Intelligence Quotient (OIQ)
*US Civil Service Exam for Typing and Shorthand (CSE)
*Certification of Emergency Medical Technicians (NREMT)
Kuder Interest Inventory (KII)
*General Education Development Examination (GED)
Certification of Engineering Technicians (CET)
American School Achievement Examination (ASA)
Adult Basic Learning Examination (ABLE)

*Area Test Center

ELIMINATION OF SEX BIAS

Hinds Junior College is an equal opportunity school. All courses are open to both sexes. S/HE has a choice of 28 training programs.

The Education Amendments of 1972, Title IX, and the Vocational Education Amendments of 1976, are directed at ensuring that equal opportunities are provided to females and males in vocational education programs.

A COMMUNITY PROJECT

The Vicksburg-Warren County Branch of Hinds Junior College cooperates with the State Department Vocational-Technical Division in the administration of vocational, technical, and adult programs. An overall advisory council and program craft committees help in the decision making process for our complex.

The Warren County and Vicksburg school systems contribute financial and material support to our Vo-Tech Center.

JOB PLACEMENT

Counselors will assist students in obtaining employment.

V. Albuquerque Skill Center, Albuquerque, New Mexico

We have had several "Quick Start" programs. Our procedure for each is the same. We first determine a need through local sources. Most frequently a community group or businessmen will come to us with a suggestion for a new training program. We review the information available at the Employment Security Division and the State Department of Vocational Education. If that looks good we talk to National Alliance of Business Men, the Chamber of Commerce and the Union Leadership (where appropriate). If it still looks good we form an ad hoc advisory committee for input and conduct a telephone survey of the local business scene to determine shortages and obtain a general commitment for employment. We are, in fact, surveying about 30 occupations right now from which we expect to select about three new titles for this coming October. We signed a contract in September 1979 to train 500 people for job preparation.

CUSTODIAL (Slow Learner): Using the above system we identified the need for Slow Learner training in custodial, grounds keeper and keypunch (for the most capable) areas. We developed a Course Outline for each. Eventually we combined and conducted the Custodial/Grounds Keeper program for several groups, running a class when we felt we could get the graduates employed and skipping six months when we decided employment might be difficult. The results were satisfying with over 70% placed, compared with about 19% for other programs of a similar kind from around the state.

The KEYPUNCH program fared less well. Placements were made but the clients could only handle exactly what we taught them. When the needs of the job varied, even a little bit, the Slow Learners could not adjust rapidly enough to be of real use to the employer.

CLERICAL UPGRADING/REFRESHER: We are about to organize a course with this job title. These are PSE employees throughout the county who have some clerical skills but are not employable in the open market. We have developed a curriculum for a maximum of 13 weeks as refresher (those who once had employable skills, but have lost them through disuse) and provide upgrading for those who began a clerical program but never achieved an employable skill level. In both cases the procedure at the top of the page was followed.

This will be an open-entry/open-ended program so that students enter and leave as they need to.

Clerical for the HANDICAPPED: We have used this system to provide training for handicapped people - opening programs as the need arises.

All of these and the other programs, which we operate for awhile and then close, require ready-made curricular materials. To accommodate this need we scavenge every individualized curriculum we can lay our hands on. Our best source outside the programs we develop ourselves, is the 13 state Consortium of Vocational Ed units (includes New Mexico and Arizona). This unit has provided us with at least fifteen really excellent individualized programs. We obtain quite a lot from other Skill Centers, from our parent organization, the Albuquerque Technical Vocational Institute. By keeping these on hand it is easy to adapt one or more of them to a new program.